PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

PUNJAB

FOR

1879-80,

By W. SCHLICH, Esq., Ph. D.,

CONSERVATOR OF FORESTS;

WITH A REVIEW BY H. H. THE LIEUTENANT-GOVERNOR OF THE PUNJAB.

Lahore:

PRINTED AT THE CENTRAL JAIL PRESS,

1880.

Proceedings of the Hon'ble the Lieutenant-Governor of the Punjab, in the Department of Revenue, Agriculture and Commerce, (Forests,) No. 378F., dated 20th September 1880.

READ—

The Forest Report of the Punjab, for 1879-80.

RESOLUTION.—The report, which is a clear and careful one, was due to this Government on 15th July, and to the Government of India on 1st September. It was, however, received by the Lieutenant-Governor on the 18th August only. His Honor trusts that steps will be taken to ensure its more prompt submission next year.

2. The great weakness of the Forest staff during the past year has prevented any additions being made to the area of reserved forests. Much, however, has been done preliminary to actual investigation of rights and demarcation, especially in Jhelum, Shahpur-kandi, Kangra and Kulu. In the two last cases, the preliminary notification of reservation has been issued, and the Lieutenant-Governor trusts that the enquiry into rights and the actual demarcation of the forests, will be completed before the close of 1881. The revenue survey maps of the Murree and Kahuta tahsils are now, after many delays, almost ready, and the Lieutenant-Governor hopes that the long pending demarcation of these forests will be really commenced at the beginning of this cold weather. A revenue surveyor has been promised by the Government of India to assist the Settlement and Forest Departments, in this matter. The Conservator in paragraph 21 anticipates that during the next few years an area of 1,478 square miles will be added to the reserved forests of the Punjab, and His Honor considers that this statement shows satisfactory progress on the whole. It is necessary before declaring forests to be reserved to be careful that the rights of surrounding villages are duly regarded, and this makes the progress of the work slow. It has also been seriously retarded, as already remarked by the weakness of the Forest staff of the Punjab, and the Lieutenant-Governor regrets that this weakness has not been, and can not speedily be remedied. Three officers have been added to the staff during the year; but the withdrawal of one, and the retirement of another, has left the service, which was already very weak, in much the same condition at the end of the year as it was before, and since then one officer has been lost by a fatal and lamentable accident, and another is about to retire. It is impossible for the forest officer to discharge the current duties of his charge and pay attention to the reservation of forests at the same time without the progress of the latter work being exceedingly slow; and the number of officers of the commission withdrawn on special political duty has been so large that His Honor has hetherto been unable to carry out his wish to appoint two Forest settlement officers for the demarcation of reserved forests. Sir R. Egerton hopes, however, that it will be possible to do this during the ensuing cold weather, and that in one way or another it will be feasible to strengthen the hands and ranks of the Forest staff.

3. The negotiations which were entered into by Government with the Hill States of Simla, for the lease and protection of their deodar forests, have not been very successful. The reason of this is that the terms which Government can offer are naturally much less attractive than those which can be obtained at once by the sale of the timber in the forests to contractors. Leases of the forests of Raiengarh and Bashahr have been effected, and reports have been submitted on those of Jubbal, Taroch and Keonthal. The two former of these three States belong to chiefs who are minors, and their forests can for the present be protected by the Superintendent of Hill States. As regards Keonthal, His Honor believes that it will be impossible for Government to offer any terms which the Raja will accept in view of the advantages offered to him by the Simla market and by contractors. In connection with this subject, the Lieutenant-Governor desires to acknowledge the services of Captain Bailey, Conservator of Forests, School Circle, North-Western Provinces, under whose direction the reports on

these forests were prepared. The claims of Messrs. Winton and Braidwood, the Contractors of the Raiengarh forests, which Mr. Amery professed to have leased to them, have not yet been finally settled, but it is hoped that this will now be shortly effected.

4. The question of placing jungle and forest lands now controlled by district officers under forest officers in subordination to the former, the forest officer remaining under his departmental superiors as regard the reserved forests, was referred to the Conservator during the year, and is now under the consideration of Government. But inasmuch as the discussion of the details of the scheme belongs more properly to the current year, notice of them may be deferred till the review of the report for 1880-81.

5. The number of offences against forest laws and rules has increased slightly during the year under consideration. The Lieutenant-Governor entirely agrees with the principle laid down by Dr. Schlich in paragraph 59 on the question of the exclusion of grazing. The matter is one which needs careful consideration, but when once settled, the exclusion should be rigidly maintained, and the Lieutenant-Governor looks to all district officers to see that this principle is acted up to.

6. The damage caused by fires in the Hazara and Rawalpindi districts, and especially the latter, has been very serious. The Lieutenant-Governor regrets that it has twice been necessary during the year to visit with severe censure the conduct of the Deputy Commissioners of these two districts in the matter of prosecuting and punishing forest offences. His Honor is determined that the policy laid down by Government, after careful investigation, shall be carried out by all Government officers, and that forest offences shall not be overlooked, nor the decision of the cases delayed. Reserved forests are the property of Government in exactly the same sense as money in the Government treasury is, and the district officer is as much bound to protect the one as the other. Sir R. Egerton trusts that this will be distinctly understood by all officers, and that such neglect of Government interests in forests, as has taken place in Hazara and Rawalpindi, will not again be brought to his notice.

7. The work of sowing and planting has not been markedly successful during the year except at Kala Tope and Changa Manga. The experiments made to cultivate foreign species of trees show that some of the class of Eucalyptus flourish well in certain localities. After much money has been spent on Rakh Baoli Lehna Singh, it has been found that the soil of the spot chosen cannot be made suitable for the plantation of trees, and the Lieutenant-Governor regrets that it will be necessary to abandon the experiment. Nothing was done for the Peshawar jhil plantation during the year, but the subject has now been taken up again, and it is hoped that the drainage works will be completed this cold weather. The proposed working plan for the plantation of the Dagshai cantonment will, owing to military arrangements, have to be postponed for action till the expiry of next year.

8. The amount of wood taken from the depôts by purchasers was much the same as in the preceding year, but the amount brought to them from the forests was barely two-thirds of that in 1878-79. This result is mainly due to deficiency of establishment, and the Lieutenant-Governor considers that where the establishment is unavoidably limited, it is more important to employ officers on the work of demarcation than on felling timber for revenue. The lands of Government unreserved forests will be liable to constant encroachment until they are reserved, while fellings can be carried out at leisure. The special efforts made to float down the old logs in the Ravi will no doubt have been furthered by the unprecedented floods of this summer, which have caused no little damage to the Chamba roads. The Lieutenant-Governor attaches the same importance as the Conservator does to cutting up trees felled in the most advantageous way for Government, and His Honor hopes that this will be strictly insisted on by Dr. Schlich. The difficulty experienced in providing a wood supply for the Rawalpindi city and cantonment has been mentioned by the Conservator in paragraphs 116 and 117 of his report. The Lieutenant-

Governor considers that this difficulty, which at one time threatened to become serious, was met very successfully by Dr. Schlich and Mr. Elliott; it is not likely that the pressure of last winter will occur again with the same intensity. The Conservator has justly drawn attention to the excessive free grants of timber in Kulu, in the Beas division; a report will be called for from the local officers on this subject.

9. The financial results of the working of the Forest Department for the year are, the Lieutenant-Governor considers, satisfactory. The apparent deficit of last year, which was due to the large stock of wood at the depôts, has by the sale of last year's timber been converted into a surplus of Rs. 61,156, while the sales of the present year, including the above sum, show a surplus of Rs. 1,69,143 as against an average of Rs. 73,964. Allowing to last year its proper share of the realizations, there is an increase of Rs. 41,038 in this year's surplus over that of 1878-79, and at the same time charges have fallen from Rs. 5,23,554 to Rs. 4,80,676 : this is no doubt due in a large measure to the cessation of fellings. From the comparative statistics of the last ten years given by the Conservator, it will be seen that in five forest divisions there has been a surplus, and in four a deficit of income as compared with expenditure during that period. It is satisfactory to note that nearly the whole surplus of the ten years has taken place during the last five. The amount of income outstanding on account of grazing fees is large: the attention of district officers will be drawn to the necessity of collecting these fees as promptly as any other portion of the Government Revenue.

10. The Lieutenant-Governor cannot conclude the review of this year's report without referring to the location of military camps in the reserved forests of the Dungagalli range, and the destruction caused thereby. His Honor has pointed out the necessity of referring to the local authorities in fixing such locations. The chief harm in these cases is caused by the limits of the locations being undefined, which inevitably results in great waste of forest produce; the demarcation of the camps has now been put in hand.

11. The subject of the "chos" of the Siwalik range has continued to receive the attention of Government. Fortunately the harm done by these sandy torrents during the last year appears to have been much less than is usually the case. On a review of the facts and the proposals of Mr. Baden-Powell by the Financial Commissioner, it was determined that action should be taken in Hoshiarpur, under Section 35 of the Forest Act to protect the forest and waste land in which the sources of the torrents are situated. Notice will be duly issued to the people of the villages whose lands will be protected, calling on them to show cause why a notification for the protection of these lands should not issue, and a special officer will be appointed to examine the grounds of the objections raised. The Lieutenant-Governor sees no reason to doubt that a satisfactory decision of them can be arrived at, and that the areas in question can be protected.

12. The office of Conservator was held by Mr. Baden-Powell for the first 9 months of the year, and since then by Dr. Schlich. The thanks of the Lieutenant-Governor are due to both of these officers for their management of the Forest department during the year.

ORDER.—Ordered, that this review be printed and published in the *Punjab Gazette*; also, that copies be furnished to the Secretary to the Government of India, Home, Revenue and Agricultural Department; to the Conservator of Forests, and to the Financial Commissioner.

By order of the Hon'ble the Lieutenant-Governor of the Punjab,

W. M. YOUNG,

Secretary to Government, Punjab.

Camp No. 145, dated Simla, 15th July 1880.

From—Doctor W. Schlich, Conservator of Forests, Punjab,

To—The Secretary to Government, Punjab.

I have the honor to submit herewith, for His Honor the Lieutenant-Governor's information, the Annual Administration Report of the Punjab Forest Department for the year 1879-80.

2. Mr. B. H. Baden-Powell, C. S., was in charge of the Department for the first nine months of the year, when he, after having superintended forest administration in this Province for more than 10 years, was transferred to a higher appointment. During one month Mr. A. Pengelly, Deputy Conservator of Forests, held charge of the office, and on the 26th January 1880 I assumed charge of the Department.

3. Having been only such a short time in the Punjab, I took special care, in compiling the report, to restrict myself as much as possible to an enumeration of facts, reserving an expression of my individual opinion on many points until some future occasion.

4. I have endeavoured to make the report as short as possible, without omitting any essential points.

TABLE OF CONTENTS.

		PARA.
CHAPTER I.—INTRODUCTORY REMARKS ...		1
CHAPTER II.—AREA AND BOUNDARIES OF RESERVES ...		9
	1. Area ...	9
	2. Boundaries ...	22
CHAPTER III.—PROTECTION AND IMPROVEMENT ...		35
	1. Establishments ...	35
	2. Breaches of forest rules ...	37
	3. Forest fires ...	40
	4. Grazing and fencing ...	49
	5. Sowing and planting ...	60
	6. Experiments ...	88
	7. Roads, bridges, &c. ...	98
	8. Buildings ...	104
	9. Hoshiárpur chôs ...	105
CHAPTER IV.—YIELD AND WORKING ...		106
	1 Departmental operations ...	107
	2. Material removed from the forests by purchasers ...	120
	3. Free grants of forest material ...	123
	4 Foreign timber imported into British territory ...	128
CHAPTER V.—FINANCIAL RESULTS ...		130

Statements exhibiting the annual accounts,

Form No 45 —Area of reserved forests.
" " 45.—Do. of unreserved forests.
" " 46 —Do. of plantations.
" " 48.—Prosecutions for breaches of forest rules.
" " 49 —Annual summary of revenue and expenditure.
" " 50.—Account current.
" " 51.—Statement of outstandings and liabilities on account of contractors and disbursers.
" " 52.—Statement of outstandings on account of revenue.
" " 53.—Statement of trees felled.
" " 53 —Appendix.
" " 54 —Statement of logs, sleepers and scantlings cut.
" " 55.—Statement of timber brought to depôt.
" " 56 —Account of timber and other produce
" " 60 —Abstract showing the value of timber and of live and dead stock.
Appendix A.—Flood Register.

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE PUNJAB

For the Year 1879-80.

By W. SCHLICH, Ph.D.,

Conservator of Forests

CHAPTER I.—INTRODUCTORY REMARKS.

The areas with which the Forest Department in the Punjab is connected at present amount to 4,707 square miles, which are distributed amongst the several Forest Divisions in this manner :—

Division.	Reserved forests.	Unreserved forests	Total forest area.
	Square miles.		
Jhelum	186	...	186
Rawalpindi	154	480	634
Fuel Reserve North	43	973	1,016
Chenab	61	371	432
Ravi	158	134	292
Beas	60	526	586
Sutlej	38	50	88
Fuel Reserve South	53	1,065	1,118
Plantation	42	313	355
Total ..	795	3,912	4,707

2. Until considerable progress has been made in the selection and demarcation of reserves, it will not be possible to treat the two classes of forests separately in the Annual Report.

3. Besides the areas enumerated above, there are very large jungle tracts or rakhs under the management of the Deputy Commissioners. The question has now been raised, whether the management of all forest tracts should not be entrusted to Forest Officers, the latter to be under the orders of the Deputy Commissioners as regards all unreserved areas, and under the Conservator of Forests as regards all reserves. If the principle should be adopted, it will be advisable to let the boundaries of the Forest Divisions coincide with those of the districts, each division or district having one chief Forest Officer, to be called "District Forest Officer," and as many Assistants and subordinates as may be required. In that case, district arboriculture might possibly also be entrusted to the District Forest Officer and his staff, where such should be found practicable. Probably a final conclusion will be arrived at before the close of the year 1880-81.

4. During the year under review new River Rules were passed by Government, under section 41 of the Indian Forest Act, which have since come into force. Standing orders for the guidance of Divisional Officers were also issued by the Conservator. The rules give the control of all important floating streams to the Department, and it is to be hoped that the result will be a great reduction of dishonest practices on the part of those employed in taking timber down the Punjab rivers.

5. By Notification No. 352F, dated 8th December 1879, the Government invested all officers in charge of Forest Divisions, and such other officers as the Conservator may from time to time specially authorize in that behalf, with the powers described in section 67 of the Forest Act, that is to say, with the power to compound forest offences.

By another Notification, No. 533F, dated 8th December 1879, powers were conferred upon the superior and subordinate Forest Staff under sections 20, 25, 33, 45, 46, 47, 50, 60 and 82 of the Forest Act.

6. By Notification No. 208, dated 2nd May 1879, rules under clause I, section 25 of the Forest Act, regarding hunting and shooting in reserved forests, were introduced. The rules prohibit hunting of a description likely to cause damage to the forests, and they establish a close season lasting from the 15th March to the 15th September in each year.

7. Regulation No. II of 1879 (a regulation to provide for the preservation and management of forests in the district of Hazára) was published in the *Punjab Government Gazette* of the 3rd July 1879. This regulation was designed to meet the special requirements of the Hazára District. It had, however, not been in force for more than a few months, when the Conservator asked Government to extend certain sections of the Forest Act to Hazára, in addition to the regulation. This the Government refused to do, considering that the regulation, having once been passed, should first have a fair trial. On the whole, it seems doubtful whether it was judicious to frame a separate regulation, considering that the Forest Act had been passed at the time.

8. During the year, negotiations have been entered into with several of the hill chiefs whose territory is situated near Simla, with the view of leasing their deodar forests, and thus preventing their being destroyed. Only in the case of the forests belonging to the jagírdár of Raiengarh a lease has actually been concluded, while in several other instances no definite results have been arrived at so far. Under these circumstances it will be advisable to defer going into details until next year.

CHAPTER II.—AREA AND BOUNDARIES OF RESERVES.

1.—Area.

9. As already stated in paragraph 1 of this Report, the areas of reserves, arranged according to Divisions, are these :—

		Square miles.
Jhelum	Division	186
Rawalpindi	"	154
Fuel Reserve North	"	43
Chenab	"	61
Ravi	"	158
Beas	"	60
Sutlej	"	38
Fuel Reserve South	"	53
Plantation	"	42
	Total ...	795

No additions have been made during the year. The increase of 4 square miles, as compared with the area given in last year's report, is due to corrections of the areas previously gazetted.

10. The forests so far reserved may be classified as follows :—

		Square miles.
Upper Hill forests (deodar, inferior pines, oaks, &c.)	...	= 443
Lower Hill forests (chil, &c.)	...	= 110
Plains forests, rakhs, (sanatta, olive, phulai, jhand, kikar, sissu, &c.)		= 242
Total	...	= 795

This area is exceedingly small; however, fair progress has been made in preparing additional blocks for final notification under section 19 of the Indian Forest Act, as may be seen from subjoined remarks.

11. *Jhelum Division.*—No additions are at present contemplated.

12. *Rawalpindi Division.*—A good portion of the Murree and Kahuta forests has been examined in a preliminary manner, and it is contemplated that the actual selection and settlement of reserves are to commence on the 1st September 1880, by which date the greater portion of the survey sheets of both tahsíls has been promised.

13. *Fuel Reserve North Division.*—Settlement operations have been carried on during the past two cold seasons. Of the areas examined, the following are likely to be reserved, the necessary proposals being now partly before Government and partly before the Settlement Commissioner :—

Jhelum District—

					Square miles.
Jhelum Tahsíl	...	...	...	...	= 117
Talagang „	...	...	...	...	= 39
Chakwál „	..	...	...	...	= 38
			Total	...	= 194

The work will be continued next camping season.

In *Gujrát* 13 rakhs, covering an area of 32 square miles, have been gazetted under section 4 of the Act, but the results of the settlement have not yet reached this Office.

In *Shahpur*, an area of 231 square miles has yet to be dealt with.

14. *Chenab Division.*—The Gujránwála rakhs, comprising an area of 234 square miles, have been settled during the year, and proposals are before Government to notify 92 square miles as reserved, and 142 square miles as protected forests.

In the Jhang grazing circle, adjoining the Gujránwála rakhs, an enquiry into existing rights has to be made, before final orders can be passed regarding it.

In Pangi 36 additional forests, covering about 53 square miles, have been selected, which it is proposed to demarcate in 1880-81.

15. *Ravi Division.*—A preliminary investigation has been made in the Shahpur-Khandi forests, and the Government have ordered that the areas are to be notified under section 79 of the Forest Act. They will be demarcated during the coming cold weather, and it seems that about 21 square miles may be secured for forest purposes.

16. The demarcation of forests in Chamba has been at a stand-still during the year under review, for want of an officer to attend to the work. Since the beginning of April, however, the subject has been taken up again. It is impossible at present to state accurately what the final area of reserves in Chamba may come to, but an addition of 100 square miles may be expected.

17. *Beas Division.*—Proposals are now before Government for the reservation of 156 square miles in Kulu. In Kángra we have not yet got beyond a preliminary investigation. On the whole, an additional area of about 130 square miles more may be secured as reserves, or under section 79 of the Forest Act.

18. *Sutlej Division.*—No extension is contemplated at present, nothing having been decided as yet as to how the Kalesar forest is to be treated.

19. *Fuel Reserve South Division.*—Proposals are before Government for the final notification of 56 square miles in Mooltan. The settlement of about 93 square miles in Montgomery is almost complete.

The steps taken in Muzaffargarh and Dera Ghází Khan have so far been of a preliminary nature only, and nothing definite can be stated as yet.

20. *Plantation Division.*—Enquiries have been completed, and it is expected that about 200 square miles will be added to the reserves.

21. From the above remarks it may be concluded that the following additions to the area of reserves are likely to be made during the next year or two :—

	Square miles.
Rawalpindi	60
Fuel Reserve North	350
Chenab	145
Ravi	120
Beas	280
Fuel Reserve South	300
Plantation	200
Total ..	1,455
Add Kalesar forest	23
Grand total ...	1,478

If we add this area to that already reserved, we obtain a total of 2,273 square miles, which is equal to about 2 per cent. of the total area of the Punjab, including the states of Chamba and Bashahr; after all an exceedingly moderate proportion.

It must be left for future consideration to decide, in how far a further increase of reserves is called for by the requirements and peculiarities of the Province.

2.—Boundaries.

22. *Jhelum Division.*—As stated in last year's report, the demarcation of the forests in the Kaghán range has been suspended. During the year under review, the demarcation of the Dungagali range, by permanent masonry pillars with bench-marks, has been commenced, and 316 such pillars have been erected. As it would take from 6 to 8 years at this rate to complete the work in this range alone, the Conservator has arranged that several parties should be employed, so as to bring the work to a close by the end of next year at latest.

23. Since the close of the official year, the Civil Stations of Dungagali, Nathyágali and part of Thandiáni have also been demarcated, and instructions have been issued to push on the demarcation of the Military Stations in the Dungagali range, with a view of avoiding any further friction between the Military and Forest Departments.

24. As soon as the demarcation in Dungagali range has been completed, that of the Kaghán range will be proceeded with. Owing to the scarcity of officers, it will not be possible for the present to carry on the work simultaneously in both ranges.

25. At *Pira Ghaib* plantation 29 pillars were erected, and the remainder are being put up now. The part of *Saila Bela*, which has been allotted for the supply of grazing and grass to the Cavalry stationed at Jhelum, has been demarcated with permanent pillars.

On the whole, it seems that 3 more years are required to complete the demarcation of the gazetted reserves in this Division.

26. *Rawalpindi.*—During the year, 831 permanent masonry pillars have been erected, and, generally speaking, all gazetted reserves have now been demarcated, with the exception of some disputed points. A náib-tahsíldár has

been appointed to settle these, and it is expected that he will complete his work before the end of the year 1880 81.

27. *Fuel Reserve North.*—The following demarcation has been reported as done during the year :—

		Trenches.
In Gujrát.		
	Rakhs Bhikli and Gohar	... 161
„ Sháhpur		
	Rakh Salim	... 346½
	„ Hujjan	... 49½
	„ Abdal	... 71½
	„ Makko Dhuddi	... 129½
	„ Vairowal	... 13
	„ Miana Gondal	... 63
	Total	834

Each trench is 50 feet long by 1½ feet deep and 2 feet broad, and they are placed 150 feet apart; hence the total length demarcated comes to about 32 miles. These works complete the demarcation of areas commenced in former years.

28. Around Belas Bahlolpur, Sadhoke, Kotli Gohan, Kaulowal, Syan and Pindi Tatar, situated on the Chenab river, 188 boundary pillars, consisting of mounds of earth heaped up around wooden stakes, have been constructed.

29. *Chenab.*—In the Gujránwála rakhs 97 miles of boundary have been cleared, and 16 miles trenched. The work of demarcating the whole of the area about to be reserved will, it is hoped, be completed during the next cold season.

30. *Ravi.*—In this Division only repairs of previously-demarcated boundary lines have been executed. Since the close of the year a special officer has been deputed to push on the demarcation of additional areas.

31. *Beas.*—In anticipation of the settlement and formation of reserves, 25 blocks, situated on the Dháula Dhár range in Pálampore, have been demarcated, their area amounting to 53 square miles.

In the Rája of Nádaun's jagir, 22 blocks have been demarcated in a preliminary manner, with the view of their being reserved under the Forest Act.

In Hamirpur 3 blocks have been demarcated with masonry pillars at the main corners, and temporary pillars at intermediate points.

In Dera and Núrpur the boundary pillars erected in former years have been repaired, and Gagriwal rakh has been demarcated with wooden posts.

32. *Sutlej.*—Only repairs of existing boundary pillars have been attended to.

33. *Fuel Reserve South.*—The boundaries of all the reserves of Serai Sidhu, excepting part of Bhura Kotla, have been cleared to a width of 17 feet, the total length amounting to 73 miles. In addition, trenches are being made, so that the total width of the boundary line will be 20 feet.

In Montgomery and in Lodhrán also some lines have been cleared, but by far the greater part of the work remains to be done.

34. *Plantation Division.*—Besides repairs of former demarcations, only rakh Chandra, in the Lahore District, has been demarcated by trenches.

CHAPTER III.—PROTECTION AND INPROVEMENT.

1.—Establishments.

35. During the year under review, the Superior Staff of the Department has been localized, and the following strength sanctioned for the Punjab :—

Conservator	1
Deputy Conservators	5
Assistant Conservators	12
Sub-Assistant Conservators	4
Total	22 officers.

As the Department in this Province is likely to undergo some changes, it being under consideration to subordinate the Forest Officers to the Deputy Commissioners as far as unreserved forests are concerned, it remains to be seen in how far the sanctioned staff is sufficient for the duties to be performed by it.

36. The sanctioned Subordinate Staff comprises :—

		Rs.
21 Rangers at a monthly cost of	... ...	1,600
79 Foresters	ditto	1,655
614 Guards, &c.	ditto	3,725
1 Native Doctor	ditto	40
Allowance to Rakhas	ditto	105
Total monthly expenditure for Subordinate Forest Establishments	... ...	7,125
40 Office Clerks and Munshis, per month	... ...	1,665
55 „ Chaprasis	ditto	287
Bhishti and Sweeper	ditto	6
Total Office Establishment	... ...	1,958
Grand total of all Subordinate Establishment monthly		9,083

Here also it remains to be seen how the Establishment is to be arranged when the future organization has been decided on. It is not unlikely that Superior Forest Rangers may have to be appointed as District Forest Officers to districts in which the forests are not of sufficient extent and importance to warrant the appointment of superior officers.

2.—Breaches of Forest Rules.

37. There were 726 prosecutions during the year as compared with 685 during the year 1878-79. The following figures give the distribution of the cases amongst the Divisions :—

		Prosecutions.	*Convictions.*
Jhelum	Division ...	58	18
Rawalpindi	„ ...	260	131
Fuel Reserve North	„ ...	81	64
Chenab	„ ...	22	22
Ravi	„ ...	44	32
Beas	„ ...	135	126
Sutlej	„ ...	8	8
Fuel Reserve South	„ ...	65	52
Plantation	„ ...	53	34
	Total	726	487

This would give 67 per cent. convictions, as against 66 per cent. during the year 1878-79.

38. As regards the different classes of offences, the distribution is as follows, compared with the offences of last year :—

	1878-79.	1879-80.	Increase.	Decrease
Injury to forests by fire	33	103	70	...
Unauthorized felling or theft of forest produce ...	360	349	...	11
„ grazing of cattle	196	201	5	...
Other offences	96	73	...	23
Total ...	685	726	41	...

There is a considerable increase under " Injury to forests by fire." The Conservator thinks this is due, not so much to an increase in the number of forest fires, but to the fact that more attention has been bestowed upon the subject during the year. The details about forest fires will be found further on.

39. Of other offences cattle grazing and cattle rescue are as yet giving a good deal of trouble, and complaints have been made in several Divisions to the effect that it is difficult to get offenders convicted, and, when convicted, adequately punished. As it is not quite clear in how far these complaints are due to the uncertainty of boundaries and to the manner in which cases are brought before the court, and as the Government have taken up the matter, it is not necessary to take any further notice of the subject just at present.

3.—Forest Fires.

40. During the year under review, a good deal of damage has been done by fires.

41. *Jhelum Division.*—Fires have occurred, but no estimate of the areas burnt has been given.

42. *Rawalpindi*—25 fires were reported, which spread over an aggregate area of 124,000 acres, or close on 200 square miles. Since the close of the year, reports have been received that enormous fires have taken place, both in Hazára and Rawalpindi, one of which threatened Murree.

Fuel Reserve North.—No fires have been reported.

Chenab.—No fires reported.

43. *Ravi.*—Several fires occurred in the Shahpur-Khandi forests, which spread over an aggregate area of 4,800 acres, equal to about 7 square miles. There were also some fires in Chamba, but the area over which they extended has not been given; it is believed not to be large.

44. *Beas.*—Numerous fires occurred, for instance 39 in Kulu. The area burnt amounts to :—

				Acres.
In Kulu	...	...	...	1,200
Hamirpur	...	...	...	30
Núrpur	...	...	...	5,900
Hoshiárpur	...	...	...	700
	Total		...	7,830 acres, equal to about 12 square miles.

45. *Sutlej.*—15 fires occurred in Bashahr which burnt 290 acres of forest and 1,690 acres of grassy slopes, or a total of about 3 square miles.

Fires also occurred in Kalesar, but the area affected has not been given.

46. *Fuel Reserve South.*—In this Division 11 fires have been reported which burnt the following areas :—

		Acre
In the Montgomery District	...	= 1,935
„ Mooltan „	...	= 1,500
„ Muzaffargarh „	...	= 30
„ Dera Ghází Khan District	...	= 12
Total	...	= 3,477 acres, equal to about 6 square miles.

47. *Plantation Division.*—At Chánga Mánga 370 acres of new plantation about 4 feet high, and 52 acres of the oldest part of the plantation, were burnt.

At Nág three fires occurred, but the area injured has not been given.

A small fire occurred at Shahdara. In Thatta Faqirulla 90 acres were burnt. At Báoli Lehná Singh 4 fires were caused by passing trains, the area burnt not having been given. Several other fires occurred in other rakhs.

48. On the whole, it will be observed that a good deal of damage is being done by fires, and especially so in Hazára and Rawalpindi. Under these circumstances demarcation must be pushed on with great vigour; and this done, we

must adopt special measures to protect the areas under our control against fire, trusting that the Civil authorities will co-operate with us in preventing a source of injury which ought not to exist at all in a country like the Punjab.

4.—Grazing and Fencing.

49. *Jhelum Division.*—When the settlement of reserves was made by Major Wace some years ago, special care was taken to allot to all villages adjoining the reserves sufficient grazing grounds, so as to enable this Department to close the reserved areas, with the exception of those in which rights were recorded, against grazing. Unfortunately it appears that the reserves, after having been opened one year on account of great scarcity of grass, were never closed again, but left open to grazing against payment. As this simply counteracted any good that might have been obtained from proper forest management, it was decided this year to close the Dungagali range altogether against grazing, and of the Kaghán range all those blocks in which fellings have taken place lately. Of course the people objected to this ; but so far the new order of things has not been relaxed, and with the progress of the rains the claims for grazing in the reserves will disappear. It is much to be regretted that these forests once closed had been thrown open again to grazing. In the Dungagali range it is absolutely necessary to exclude cattle for a number of years, until the numerous blanks have been stocked.

50. *Rawalpindi.*—Rakhs Kheri-mar, Kawagarh, Khairi Murat, Kaulial and a part of Margalla have been closed against grazing, as these rakhs are of the highest importance for the fuel supply to Rawalpindi. Some difficulty has been experienced to keep the cattle out, and in order to make the measure effective it will be necessary to fence the rakhs. A beginning was made last year by building dry stone walls, and this year the work has been continued by constructing a dry stone wall 2½ miles in length at the west end of Khairi Murat reserve ; 1,027 feet wall, fencing the Margalla rakh, where it adjoins the Murree road ; 930 feet on the east side of the same reserve, and 850 feet closing a much-frequented passage into the Kawagarh reserve.

51. The temporary scarcity of labor in the District prevented more being done ; but as soon as the present demand for labour, connected with railway works and the Afghan war, becomes somewhat less, operations will be started on a much larger scale, so as to bring the area which must hereafter supply the town and cantonment of Rawalpindi with fuel, under thorough protection at the earliest practicable date.

52. *Fuel Reserve North.*—The dry stone wall fences in Rakh Pabbi have been repaired, and an additional brush-wood fence, 4 miles in length, constructed. The portions of rakhs Nili and Múnki, where fuel cutting for the railways took place, have been fenced in, partly by stone walls 4,175 feet in length, and partly by brush-wood fences 8,150 feet long. The following rakhs and belas have been closed against cattle-grazing for reproduction—rakhs Dhal, Mari, Bhachchar ; belas Sadhoke, Syan, Nath and Pindi Tatar.

53. *Chenab.*—In the Gujránwála Wood Circle, 12 miles of new brush-wood fences have been thrown up, and 1 mile repaired. So far great difficulty is experienced to keep cattle out of the protected areas.

54. *Ravi.*—In the Upper Ravi nothing on any extensive scale has been attempted in keeping grazing out of deodár and other forests. In Kalatope 3,344 feet of new fences have been made and 30,550 feet of old fences repaired. The old fence round Bara was kept in repair. A new fence, 6,500 feet in length, has been put around Kuntla hill.

55. *Beas.*—The existing fences have been repaired. The following areas have so far been fenced in Kulu :—

	Acres.
In the Dungri forest ...	60
„ Sial Bial „ ...	85
„ Dana Bial „ ...	30
„ Manalghan „ ...	84
„ Dudlu „ ...	43
„ Soma Chalaon „ ...	10
„ Bindraban „ ...	30 partly
Total ...	342

or about half a square mile. It is evident that operations are still in the experimental stage.

56. *Sutlej.*—The fence erected in 1875 around part of the East Nachar forest has been repaired, and 3,000 feet of new fence added. In the Tangling forest one square mile was closed in by a strong wooden fence.

57. *Fuel Reserve South.*—Rakh Huj, in Serái Sidhu, has been fenced, and beginnings have been made in other reserves. It will be necessary to plant hedges so as to keep the cattle out of the protected areas.

58. *Plantation Division.*—In this Division no fencing has been done, but great exertions have been made to keep cattle out of the protected areas, which in many instances have been successful, though much remains to be done if the rakhs are to reproduce themselves thoroughly.

59. On the whole, the question of cattle-grazing is one of great difficulty. Our policy must be to restrict protection against it to those areas where it is absolutely necessary; but in these we must try and be successful, if the money spent is not to be considered as thrown away.

5.—Sowing and Planting.

60. This section will contain a record of plantations, rakh improvement, assisting natural reproduction, &c. While it is possible to show in the case of the former two over what area operations have extended, it has not been practicable up to date to give the same information as regards sowing and planting to assist natural reproduction.

61. Form No. 46, appended to this Report, gives the area of plantations, including rakh improvement, from which the following is an extract :—

Name of Division.	Area at commencement of year.	Added during the year.	Total area at end of year.
	Acres.	Acres.	Acres.
Jhelum	478	81	559
Rawalpindi	65	...	65
Fuel Reserve North	1,573	75	1,648
Ravi	174	...	174
Beas	6	...	6
Sutlej	6	...	6
Plantation	17,098	772	17,870
Total ...	19,400	928	20,328

With the exception of a few experimental plots, the plantations are all in the plains, and consist chiefly of sissu, kikar, jhand, phulai, bér, sanatta, &c.

Jhelum Division.

62. In Pira Ghaib island compartments 10 and 12 have been cut out for the supply of fuel to the Punjab Northern State Railway, a number of sissu and tallow trees being left to shed seed for reproduction. It is reported that 81 acres have been added by sowing phulai, kikar and sissu in lines.

Kutli, in the Dungagali range, is reported as doing fairly well, about 50 per cent. of the deodar originally planted being alive and thriving.

At *Changlagali* the deodar have died, while the blue pine *(Pinus excelsa)* and walnut are doing well.

Rawalpindi.

63. In Khairi Murat an attempt was made to stock an additional area of 80 acres, by sowing it with phulai, sanatta and bakain. The seeds germinated tolerably well, but most of the seedlings died off again, owing to the failure of the rains. A large stock of seed has been kept in hand, which it is intended to sow in July and August this year.

64. The important point in a district like Rawalpindi is to prevent the rakhs being reduced to such a point that natural reproduction is no longer possible; hence it is of the utmost importance to close all these maltreated rakhs at once, and until reproduction has been insured. Meanwhile the necessary fuel must be brought from Murree and Kahuta, or other suitably-situated localities.

65. Sanatta (*Dodonæa viscosa*) will be the great standby for fuel in this Division, as it grows rapidly on comparatively poor soil, coppices well, and yields a good fuel. On better soil phulai (*Acacia modesta*) and the wild olive (*Olea cuspidata*) may be added.

Fuel Reserve North.

66. *Pabbi.*—In last year's report it has been stated that 1,450 acres had been treated, partly on the pit system, partly by sowing along prepared lines, and partly by building small weirs across ravines; the species sown and planted being sanatta, phulai, and kikar.

67. During the year under review only 8 acres were added, all efforts having being directed to the filling up of the numerous and large blanks inthe area operated upon before. The Divisional Report gives the following details on this point:—

"Kikar and phulai were sown along lines, the total length amounting to 87,285 feet, equal to over 16 miles; the sowings are reported to have been a success, but that some of the seedlings died subsequently, owing to the prolonged hot weather in spring 1880.

"About 4,300 plants of phulai and kikar were transplanted behind the dams constructed previously, and also in other places. Of these about one-half are reported as having died, while many of those surviving showed signs of failing strength before the rains set in. It was estimated that not more than 10 per cent. would survive the hot weather."

As the Conservator has not yet visited Pabbi, he must postpone recording his personal opinion on these experiments until next year.

68. At *Pindi Tatar* and *Kaulowal* no extensions have been made. In Bela *Nath* 64 acres have been planted during the year with sissu and phulai, and the operations are reported as only partly successful.

In Bela Sadhoke 3 acres were planted with sissu.

Chenáb.

69. In this Division sowing and planting operations are as yet in the experimental stage. During the year 1,200 deodar seedlings, 12 months old, were planted out in the Sid-ka-dera forest, and 10 kilta loads of *Pinus excelsa* seed scattered broadcast over the grassy area above the deodar forest in Barra Bambul, both localities being situated in Pangi.

Ravi Division.

70. *Kalatope.*—The deodar seedlings of former years, some 32,000 in number, continue to thrive, the oldest being from 3 to 7 feet high now.

2,480 deodar and 543 walnut seedlings have been planted in compartments 4, 5, 14, 16 and 22; they are doing well.

The old nurseries in compartments 8, 9, 12, 14, 16 and 20 have been resown with deodar, walnuts, and blue pine (*Pinus excelsa*). A new nursery was made in compartment 9, to plant up compartments 8, 9 and 12. So far the seed in all these has germinated satisfactorily.

71. *Bakloh.*—Just before the setting in of the rains in 1879, khair seed was dibbled into 1,150 prepared patches; it germinated well, and the results are satisfactory so far. 1,934 seedlings of *Acacia melanoxylon* were planted out. When inspected in March 1880, most of them were found alive, though a number looked unhealthy.

Dhanru.—All blanks were filled up with deodar plants, taken from the forest below the plantation.

Bassu.—This plantation has merely been protected during the year.

Beas Division.

72.—The following deodar plantings in the Kulu sub-Division have been reported.

Phulga forest—The parts where fellings had taken place have been roughly fenced with the debris of the felled trees, and sown with deodar in October and November 1879. So far the results are satisfactory.

Dungry forest.—The fenced portion, 60 acres, is now well stocked with deodar, partly self-sown and partly planted. The young trees have been greatly improved by the clearing out of a dense undergrowth of *Indigofera*, which threatened to choke the young plants.

Manalghan forest.—The deodar planted in 1878–79, in lines 30 feet apart cut through a jungle of *Indigofera*, are doing well; the enclosure, 84 acres, being completely stocked now.

Dana Bial forest.—The deodar transplants of the previous year have failed to a large extent, owing, it is believed, to the very rocky and sandy nature of the locality, but the surviving plants are reckoned to be sufficient to stock the place fairly when somewhat more advanced in age.

Sial forest.—Of the deodar planted in previous years, about 50 per cent. have survived. During the year under review 1744 vacancies have been filled up with fresh plants.

Dudlu forest.—The deodar sowings of the previous year, in horizontal lines 15 feet apart, have proved successful, except in the marshy part of the forest.

Soma Chalaon forest.—10 acres were fenced in and sown and planted with deodar in horizontal lines; the result is satisfactory.

Sandhar forest.—The deodar, sown in places where cuttings had taken place, has done well.

In the *Dera range* the following works have been attended to :—

Nalian forest.—1,750 sissu and 95 toon plants were transplanted into blanks, of which 70 per cent. have succeeded. Chil was sown in lines with good results.

Tilli forest.—2,343 sissu were transplanted, of which 85 per cent. succeeded. Chil seed was sown, which germinated well, but the seedlings have been, it is reported, destroyed by white ants. The old transplants of toon and *Grewia oppositifolia* are thriving.

Samlian forest.—Sissu, siris, khair and chil were sown in lines. All have done well, except chil.

Biban forest.—Siris seed has been sown in lines, and done well. The old toon plants are healthy.

Jamali forest.—Toon and siris seed was sown in vacant places amongst the old chil sowings. Siris has done well, but not the toon.

Bajuri forest (Hamirpur range).—1,343 sissu and 200 toon plants were transplanted into lines in the forest, of which 90 per cent. are reported alive and doing well. The plants of *Albizzia stipulata* of 1878-79 are thriving, some of them having reached a height of 3½ feet.

In the *Nurpur range* about 6 maunds of sissu seed were sown in lines on the terraces on both sides of the Chitril ridge, but with partial success only. The old sissu and *Albizzia stipulata* have made good progress.

In the *Hoshiárpur range* about 7 maunds of chil seed were sown in patches in 23 acres of the Lohara forest, the results being satisfactory. The sowings of amultas (*Cassia fistula*) and kinu (*Diospyros melanoxylon*) in the same place have, however, failed.

Sutlej Division.

73. In this Division the following nurseries have been established, preparatory to further operations :—

A deodar nursery in the Rurang Forest; the seed has germinated well.

Another deodar nursery at Sapni ; the seed has germinated sparingly.

Three deodar nurseries at Kunhi ; the seed has germinated sparingly.

A small nursery at Chidu has been sown with Kaghazi walunts.

PLANTATION DIVISION.

74.—*Chánga Mánga.*—The area planted in former years amounts to 11,409 acres, and to that nothing has been added during the year under review.

75. During the last few years thinnings had been made in accordance with the existing working plan. Latterly, however, it became evident that these thinnings, though arranged in a systematic manner, were not in accordance with the requirements of the case. In most instances no thinnings at all were indicated, since every living tree removed made a hole in the cover overhead, thereby admitting light and heat to the soil, which of all things should be avoided. The fact is that the trees are not so close together as it was presumed they would be when the working plan was framed ; and Chánga Mánga has thus once more illustrated the old truth known to Foresters for many years past : "that thinnings cannot be fixed beforehand, but must be done when they become necessary in each individual case."

76. Guided by this principle, the work of thinning during the year under review has been restricted chiefly to the cutting out of dead and wind-fall trees, and the cutting of the willows planted along water-courses, which latter are expected to coppice. These cuttings have been confined to the older compartments, and extended over an area of 993 acres, the yield amounting to 278,654 cubic feet stacked. The wood was sold at the following rates :—

Stacks containing sissu, jhand, and willow	...	Rs. 15	per 100 maunds.
" " pillu (*Salvadora*) mixed with the above		" 12	" "
" " only pillu	... ...	" 7	" "

77. On that part of the canal strip which was burnt last year, the dead trees have been cut and sold, partly as building wood and partly as fire-wood.

A few acres in the old plantation have been cut over for coppicing in a variety of different ways, so as to ascertain which system gives the most favorable results before we begin cutting on a large scale.

As far as experience goes at present, there is room for serious apprehension that sissu will not coppice very freely. Stumps, to which light and air had access, have sent out only sickly lanky shoots, many of which die down when the ground is flooded. The subject must receive special attention ; hence the experimental cuttings mentioned above.

78. The natural undergrowth of mulberry is good in some parts and inferior in others. It appears that the spreading depends chiefly on the degree of moisture in the soil. Nilgais browse it down a good deal, but that drawback would be of less importance if the mulberry was once established over the whole plantation, as the damage would be spread over such a large area.

79. As mentioned above, no new extensions have been made, but there is room for a good deal of work in filling up the numerous and large blanks in the extensions made during the last few years. The following planting work has been done during the year, chiefly in *Block IV*:—

262 acres in compartments 90 to 106 were sown with sissu ; the seedlings have come up fairly well.

The blanks on the 370 acres, burnt in April 1879, were sown with sissu, immediately after the fire, with good results.

5 acres in compartments 93 to 96 were sown with bakain (*Melia azedarach*) as an experiment.

22 acres in compartment 108 were sown with jhand.

196 acres of blanks here and there were planted with sissu seedlings during the year 1879, two plants being put into each hole.

A wedge-shaped spade was used for making the hole, which latter was filled up with earth, after inserting the plants, by means of a khurpa. This system has been found to be much cheaper than those followed formerly.

In March 1880, again, about 250 acres were planted with sissu in compartments 95, 102 to 107, the wedge-shaped spade being used. The results are very promising.

Farash (*Tamarix*) cuttings were planted in pieces of kalar land in compartments 100, 103, 106 and 107. This system has not been found to answer, and it will probably be much better to raise farash from seed.

80. *Shahdara.*—33 acres, adjoining the railway line, made over to this Department last year, were planted with sissu.

Mahmúd Búti.—123 acres were planted with sissu.

In both these places the planting was done with the wedge-shaped spade, but owing to want of rain a good many of the seedlings have died.

Jhoke.—34 acres were planted with sissu, the whole being very successful.

Phillour.—The kikar, it seems, is gradually dying out in this plot. Some of the dead, as well as a few living trees have been cut out, the latter in order to favor the toon and nim. The out-turn amounted to about 40,000 cubic feet, which has been sold at the rate of Rs. 23-12-0 per 100 maunds. The cutting will be completed during 1880-81.

The nim and toon are spreading naturally in this plantation under the kikar, and they will gradually be allowed to replace the latter.

81. *Kikranwalli.*—40 acres were sown with jhand in spring 1879, and the area irrigated from wells until the beginning of the rains.

82. *Subáthu.*—It having been decided that this Department should do something towards a supply of fuel, &c., for the hill cantonment of Subáthu, arrangements were made to lease 700 acres, forming part of the cantonment land, to this Department, at an annual rent of Rs. 500, payable to the Subáthu Cantonment Committee. During the past year the area was sown with khair, chil, phulai, sanatta, sissu and a few other kinds. The seed was put in small pits 5 feet apart, the soil being loosened and levelled. The seeds germinated well, and, in spite of a prolonged drought of 4 months following the germination, the plants are on the whole promising-looking, especially the chil.

Toon and *Eucalyptus* have been sown in nurseries, and these will be transplanted hereafter.

83. *Dagshai.*—Similar steps are contemplated at Dagshai Cantonment, but planting operations have not yet commenced beyond the formation of a nursery.

84. The next 2 paragraphs comprises what has been styled *rakh improvement*, though the adoption of a special title is hardly necessary, the operations consisting of general reproductive measures.

85. *Báoli Lehná Singh.*—As mentioned in last year's report, this experiment has gradually attained larger dimensions than was originally contemplated. The Conservator found on inspection that there is very little to show for the expenditure incurred. The soil in most parts seems inferior, and to have become sour in consequence of defective drainage. The expenditure has now been reduced to a minimum; but a final decision, as to what is to be done, has been postponed until next cold weather, when the Conservator will, in company with the Divisional Officer, investigate the whole subject.

During the past year an area of 5 acres has, by way of experiment, been dug with trenches 3 feet deep by 2 feet broad, put 13 feet apart. This area was sown in a great variety of ways, and also planted with willow and farash cuttings. The result may be said to be *nil.*

50 acres were sown with jhand, and these, as well as 350 acres treated in former years, were watered from wells until the rains set in.

86. *Kot Lakhpat.*—In spring 1879 some 125 acres were sown with jhand and watered with canal water, raised by Persian wheels. As the supply of water turned out to be very precarious, the system was changed. Four English ploughs were obtained, and with these furrows, some 6 to 7 feet apart, run over the large bare patches of the rakh. The furrows were from 8 to 12 inches deep, and kikar, reru, jhand and bér seed was sown in them or on the banks formed by the ploughing. Some of the seed germinated well; others failed.

The object of the furrows is to cause the natural rain-fall to collect in them, thus bringing a comparatively larger quantity of water near the seedlings. It is too early yet to judge of the merits of the system; but at any rate it is very cheap, so that not much money will be sunk in case it should not answer.

87. The *Carob plot,* mentioned in last year's report, is now used for experiments only.

6.—Experiments.

88. These will be arranged according to species.

89. *Australian Acacias.*—In last year's report it was stated that *Acacia dealbata, decurrens, melanoxylon* and *pycantha* had failed in places like Pabbi; that *A. melanoxylon* had lived at Chánga Mánga, but did not thrive; that it grows well at Bakloh in Chamba; while in Núrpur its success was doubtful. All four species were reported as doing well in the Lee Gardens in Kulu.

During the year under review the following experience has been added:—

At Bakloh, *A. melanoxylon* continues to do fairly well.

At the Lee Gardens (5,000 feet above the sea) all the *Acacias* stood the winter well, and *Acacia dealbata* is reported as thriving particularly well, it being considered that the climate suits this tree.

At Subáthu (some 4,000 feet above the sea) *A. melanoxylon* germinated well and grew promisingly, until the annual dry weather set in, when the seedlings all died.

90. *Other Leguminosae.*—Of *Acacia rupestris* a few weakly trees remain at Chánga Mánga, but they make no progress.

Prosopis pubescens also makes little progress in the same locality. The *Prosopis glandulosa* does not suffer from frost in the Punjab plains, yet the plants do not make progress.

Eucalypti.—The following additional notes should be recorded:—

At the Lee Gardens, some of each kind of *Eucalyptus* reared stood the winter, severe as it was, and the following kinds are reported as appearing specially adapted to the climate:—

E. Stuartiana, viminalis, meliodora, globulus, polyanthemus, fissilis.

91. The Officer in charge Plantation Division gives the subjoined information:—

Eucalyptus rostrata, young plants, now one year old, grow well at Chánga Mánga; 2 years old plants are doing well at Lahore.

Eucalyptus goniocalyx germinated well and grew quickly at Chánga Mánga, until the rains commenced, when nearly all the seedlings died. Subáthu seems to suit this species better. This tree seems to be a slow grower in the Punjab.

E. melanophloia grows slowly at Chánga Mánga, and does not seem of much value to us.

E. Baileyana did not germinate at Chánga Mánga. Nothing decided seems to be known as to whether this tree is likely to succeed in the Punjab.

E. calophilla has come on well at Chánga Mánga, Lahore and Subáthu; the seedlings are strong, but it is believed that the tree is a slow grower.

E. dealbata; the seedlings withered and died from the hot winds.

E. pilularis; 8 plants, raised at Chánga Mánga, have so far grown well.

E. obligna does not appear suited to the Punjab. The seedlings are very tender, and suffer from the sun as well as from damp heat.

E. amygdalina has not thriven in the plains.

E. citriodora.—This species promises very well at Lahore and Chánga Mánga, suffering less from sun and hot winds than any other species.

E. saligna (*resinifera*) grows well at Chánga Mánga and Mahmúd Búti.

E. viminalis grows well in the Punjab plains, but slowly.

E. globulus grows fairly at Dagshai and Subáthu.

Seed of a great number of other species has been sown, but it is too early to speak of the results.

92. *Cork oak.*—A number of seedlings obtained from Europe were all dead, when received.

93. *Other European trees.*—At Kalatope and Dalhousie the following trees are growing :—

	At Kalatope between 7,500 and 8,000 feet elevation.	At Dalhousie at about 7,000 feet elevation.
Mountain ash	34	53
Elm	2	16
Lime	9	5
Beech	2	0
Turkey oak	8	6
Quercus Robur	23	22
Scarlet flowered horse chestnut ...	1	0
Spanish chestnut	12	4

On the whole, these plants are thriving, especially at the lower elevation.

In Kulu, species of the same trees are growing, also of *larch;* they are reported doing well, except the Spanish chestnuts, which suffered from the severe winter.

In the Sutlej Division we have 99 Spanish chestnuts at Kilbá and 28 at Nachar; they are reported as doing well. There are also some ash trees, which are thriving so far.

94. *Abies baborensis.*—Of this species 37 plants are now alive at Manali and are said to look fairly well.

Olives from France.—130 plants, which arrived safely, were obtained early this spring, and were planted at Lee Gardens. They are doing well so far.

It may be remarked that those of the plants which had their roots well plastered with clay arrived in best condition.

95. *Carob.*—Indian seed, as well as seed obtained from the Riviera, from Sicily, and from Cyprus, has been sown during the year.

From further enquiries it appears that it is not necessary to graft the tree in Italy. Inquiries are also being made on this point as regards Cyprus. There is a great difference between the seed obtained from Italy and that raised at Lahore, the former being flat, broad and dark red, while the latter is oval and light brown.

96. *Catalpa bignonioides* has succeeded very well at Chánga Mánga, its growth being more rapid than that of *Eucalyptus.* A further large supply of seed has been obtained and sown.

97. A great many other kinds of seed of foreign trees have been sown, but no results can be reported as yet.

7.—Roads, Bridges, &c.

98. *Jhelum Division.*—The road from Paras to Bunja, mentioned in last year's report, has been completed, with the exception of 100 feet of wall work.

99. *Chenab Division.*—Over a length of 90 miles of road in Pangi repairs were executed during the year.

100. *Ravi Division.*—The roads on the Upper Ravi have been repaired, wherever required.

101. *Beas Division.*—The Kanawan bund, on the right bank of the Beas, opposite Nowshera, was damaged by a high flood on the 11th August 1879; but no logs passed through the breaches.

The bund across the mouth of a side branch of the Beas opposite Raison has been repaired.

A pathway was made from Balo forest to Manglaur at the junction of the Manglaur stream and the Sirth to facilitate the carriage of sleepers. Another path was made through the Bakriala forest.

Existing roads were repaired.

102. *Sutlej Division.*—A road 2 miles long was made in East Nachar forest for rolling out logs; also three shoots 680, 612 and 240 feet long respectively, constructed of wooden poles, were laid down towards the river. By these means all the timber brought from the forest was launched with not more than 1 % of breakage.

The West Nachar slide was repaired, rocks blasted, and check walls built.

One-and-a-half miles of road, 12 feet wide, for rolling out logs, was made in the Ramni forest. In Pundrabis several bridges have been repaired.

103. *Plantation Division.*—The road from Chánga Mánga railway station to Chunian was, under an arrangement with the Deputy Commissioner, cleared of grass and levelled, and then the planting of an avenue, consisting of *Eucalyptus, Catalpa,* &c., commenced.

Existing compartment roads have been cleared and repaired.

8.—Buildings, &c.

104.—No new works of any extent have been executed during the year, excepting additions to existing buildings and the erection of a number of huts for subordinates.

Existing buildings have been repaired, wherever necessary.

9.—The Hoshiarpur Chos.

105. The question how these "chos," or sand torrents, should be treated, has been freely discussed during the year, but no commencement to carry the theories propounded into effect has been made up to date. The Conservator proposes to visit Hoshiárpur during the ensuing camping season, when he hopes to make a start.

CHAPTER IV.—YIELD AND WORKING.

106. The yield and working of the forests may be arranged under three headings, namely :—

(1). Departmental operations.

(2). Material removed from the forests by purchasers against payment.

(3). Free grants of forest material.

1.—Departmental operations.

107. This system is followed chiefly in the Hill Divisions, and of late partly in Rawalpindi.

The following 4 tables give an idea of the work done under this head, the details of which will be found in Statements 53 to 56 appended to this report.

A.—Trees felled during the year.

Division.	Deodar	Inferior pines.	Other trees.	Total	Remarks.
Jhelum	..	92	46	138	
Chenab	886	...	...	886	
Ravi	...	78	3	81	
Beas	407	381	...	788	
Sutlej	1,194	1,690	...	2,884	
Total ...	2,487	2,241	49	4,777	
Add Fuel Reserve South	...	...	3,715	3,715	Chiefly *Capparis aphylla*, cut for rafters.

B.—Timber brought to sale depôts from the forests.

Division.	Deodar logs.	Inferior pines	Other logs.	Sleepers	Other pieces	Total	
						Pieces.	Cubic feet.
Jhelum	1,711	184	...	...	9,802	11,647	73,091
Chenab	3,482	123	40	2,606	1,324	7,575	71,335
Ravi	1,578	426	48	6,231	6,016	14,299	73,505
Beas	658	508	95	8,401	3,671	13,333	61,762
Sutlej	6,395	860	...	723	3,125	11,103	115,319
Total ...	13,824	2,051	183	17,961	23,938	57,957	395,012

Add—Jhelum Division	Shingles	70,100	pieces.
Rawalpindi „	Firewood	59,441	maunds.
„ „	Charcoal	3,346	„
„ „	Bamboos	1,000	pieces.
Beas „	„	643,238	„

C.—Timber removed from depôts by purchasers.

Division.	Deodar logs.	Inferior pines.	Other logs.	Sleepers	Other pieces.	Total	
						Pieces.	Cubic feet.
Jhelum	5,738	64	...	.	12,665	18,467	230,796
Chenab	1,701	229	...	2,412	1,775	6,117	47,054
Ravi	1,600	426	48	3,976	5,206	11,256	64,358
Beas	703	474	...	8,336	6,519	16,032	70,600
Sutlej . ..	2,716	422	...	...	3,510	6,648	69,229
Total ..	12,458	1,615	48	14,724	29,675	58,520	482,037

Add—Jhelum Division	Shingles	...	...	70,100	pieces.
Rawalpindi „	Firewood	...	...	58,191	maunds.
„ „	Charcoal	...	...	3,346	„
„ „	Bamboos	...	...	700	pieces.
Beas „	„	...	...	644,724	„

D.—Timber account of the year.

	No.	Cubic feet.		No.	Cubic feet.
Balance at commencement of year ...	15,850	236,330	Removed by purchasers ...	58,520	482,037
			Sawn into sleepers ...	982	12,740
Received during the year ...	57,957	395,012	Lost and used by Department	2,589	7,042
			Balance at close of year ...	11,716	129,523
	73,807	631,342		73,807	631,342

108. It will be observed that 2,487 deodar trees have been felled during the year, of which 586 were windfalls. It is impossible to compare the number with that cut during the previous year, as in the latter case the trees cut by departmental agency and by private purchasers have been shown in one and the same statement, Form 53, which was not intended when the Forest Code was compiled.

109. The quantity of timber brought to depôt compares as follows with the corresponding figures of the year 1878-79 :—

	1878-79.	1879-80.	Less.
Jhelum	268,244	73,091	
Chenab	155,109	71,335	
Ravi	147,325	73,505	
Beas	32,711	61,762	
Sutlej	22,226	115,319	
	625,615	395,012	230,603

It will be seen that there has been a great falling-off, which is due to reduced fellings, the policy followed of late having been to cut as little as possible, while the selection and formation of reserves are in progress. If the revenue from the deodar forests is not to disappear altogether, fellings in a systematic manner must now be resumed.

110. The quantity of material removed from depôts by purchasers amounts to 482,037 cubic feet, as compared with 496,320 cubic feet removed in 1878-79, or a decrease of 14,283 cubic feet.

111. As regards the different Divisions, the following remarks may be added :—

Jhelum.—There have been no fellings of deodar during the year. Only 371 logs were launched. The logs remaining in the river and forests are—

	Deodar logs
In Sukakassi forest, in Kaghán, ...	604
In Dhanoo „ „	53
In the river above Bhunja bridge, mixed	4,889
Total ...	5,546

Small fellings, comprising 138 inferior pines and other trees, took place in Dungagali to meet indents received from the Public Works Department.

112. *Chenab.*—Of the 886 trees felled in the Tindi forest, Pangi, 586 were windfalls. They were cut up into 2,930 logs, which were all launched. No logs remain in the forests.

113. *Ravi.*—Only a few windfalls were cut; 2,468 logs were launched, and 10,500 broad-gauge sleepers sawn up.

At the close of the year there remained in the forests 4,807 broad-gauge sleepers and 896 other scantlings. It is believed that some 10,000 logs remain in the river, many of which are, however, very old. Special efforts are being made to clear all this timber out during the present summer.

114. *Beas.*—607 deodar and 381 inferior pine trees were cut during the year. Of the former, 50 have been sawn up into sleepers and other scantlings, and the rest logged. 311 inferior pine trees were logged, and 70 *Pinus longifolia* cut up into karís. The following timber has been launched:—

Deodar logs	2,001
Other pine logs	2,245
Sleepers	13,527
Other scantlings	2,360
Total ...	20,133 pieces

At the close of the year, there remained in the forests:—

Sleepers	6,744
Other scantlings	4,850
Total ...	11,594 pieces

115. *Sutlej.*—The fellings comprised 1,194 deodar and 1,690 other pine trees,—total 2,884 trees. Of these, 1,155 deodar and 1,056 *Pinus excelsa* trees were logged. Each deodar yielded on an average close on 6 logs, and each blue pine about 3½ logs. From windfalls 1,485 logs were obtained.

The number of pieces launched are—

Deodar logs	6,385
Blue pine	695
Scantlings	130
Total ...	7,210

There remain now in the forests—

Deodar logs	4,528
Blue pine	3,300
Total ...	7,828

116 *Rawalpindi*—Owing to the reduced state of the rakhs, which hitherto supplied Rawalpindi with fuel, and to the rapidly-increasing demand, it was considered necessary to discontinue the so-called permit system (that is to say the granting of passes for cutting fuel), and to substitute, at any rate for a time, the departmental working of the rakhs. A fuel depôt was established at Rawalpindi, supplied by contractors, who work under departmental supervision, and at this, fuel is sold at a fixed rate to retailers. In this manner 59,441 maunds of firewood and 3,346 maunds of charcoal were brought to depôt, and sold with the exception of 635 maunds of firewood.

The Officer in charge of the Division met with great opposition at the outset, and the result was that the new arrangement did not work satisfactorily for some time. Now, however, the supply is greater than the demand, and the excitement which seems to have prevailed has disappeared.

117. The system hitherto followed has, however, two disadvantages, namely.—

(1st).—That a great portion of the firewood brought into the town is quite green; and

(2nd).—That, although the Department sells fuel at 6½ annas per maund, the retail dealers somehow manage to run the price up to Rs. 1-6-0 per maund by the time it reaches the consumer.

To obviate these disadvantages the Conservator has arranged to change the system to the following :—

(1).—A reserve stock of not less than 50,000 maunds is always to be kept on hand near the forests, and the dryest wood of that stock is sent into Rawalpindi.

(2).—Two depôts, one in the Sadr Bazar and one in the Cantonment, are to be established, in which "salesmen" are appointed. These take over the firewood from the Department at 8 annas per maund, and undertake to sell it *to all comers* at the rate of 9 annas per maund, the salesmen defraying all expenses of the depôts.

In this manner the public can always obtain fuel at a well known fixed rate, and the Department is relieved of guarding the stock in depôt, since the salesmen become responsible for it the moment the material has been delivered to them.

118. *Plantation Division.*—The cuttings in the plantations are generally made by Government agency, the fuel being stacked by the roadside and there sold. During the year the following quantities have been cut and sold :—

	Cubic feet.
Chánga Mánga	... 285,205
Lahore, sailaba	... 10,930
Sharakpur	... 55,680
Lahore rakhs	... 4,838
Amritsar	... 107
Delhi Circle	... 41,200
Total	... 397,960 cb. ft. stacked.

119. During the last 10 years the timber shown in the subjoined table has been removed from the Hill forests by Departmental agency :—

Division.	Deodar logs.		Other pine logs.		Fancy woods.		Sleepers.		Other pieces		Total.	
	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.
Jhelum	32,950	905,141	20,601	371,040	129	544	2,534	6,335	64,192	82,009	120,406	1,365,060
Chenab	103,361	1,660,082	32,748	472,539	102	886	25,726	38,044	11,567	31,088	173,504	2,202,644
Ravi	58,171	1,127,684	24,417	357,447	64	552	25,786	34,655	40,419	115,081	148,887	1,635,369
Beas	18,120	498,579	4,305	78,941	228	1,797	149,701	262,261	20,575	65,546	192,929	907,124
Sutlej	72,200	1,044,085	3,261	46,182	574	2,332	50,411	66,905	50,441	79,261	176,887	1,238,755
Total of 10 years ..	284,802	5,235,521	85,332	1,306,149	1,097	6,111	253,958	408,200	187,024	372,971	812,212	7,328,952
Average per year ...	28,480	523,552	8,533	130,615	110	611	25,396	40,820	18,702	37,297	81,221	732,895
Average cubical contents per piece	...	18	...	15	...	6						

[*Remarks.*—(1). The figures given for logs are the actuals.
(2). The figures given for sleepers and other pieces are only approximately correct; in some cases only the number and in others only the cubic feet were ascertainable, and in these cases the missing figures have been calculated from averages.
(3) The column "other pieces" contains a number of sleepers, but it could not be ascertained how many.]

This table shows—

(1).—That on an average 28,480 deodár logs measuring 523,552 cubic feet, and 8,533 other pine logs measuring 130,615 cubic feet, have been brought into the market annually, besides 25,396 sleepers and 18,702 other pieces.

(2).—That the average contents per deodar log come to 18 cubic feet, and those per other pine logs to 15 cubic feet, while logs of fancy woods measured 6 cubic feet each.

2.—Material removed from the Forests by Purchasers.

120. This method of working is followed principally in the plain forests.

The supplement to Form 53, appended to the report, shows the quantities of material sold, in detail, as far as they could be ascertained. From this the following summary has been compiled :—

Division.	Trees.	Firewood.	Charcoal.
	Number.	Cubic feet stacked.	Maunds.
Jhelum	28	...	...
Rawalpindi	834	590,206	6,321
Fuel Reserve North	...	2,419,694	
Chenab	...	28,099	
Beas	6,080	...	
Sutlej	1,426	1,280	
Fuel Reserve South	...	2,840,502	
Total	8,368	5,879,781	6,321

Petty sales are not included in this statement, as the quantities removed in this manner could not be ascertained.

121. Of the trees sold 263 are deodar, 3,651 inferior pines, 3,792 sál poles, and 662 miscellaneous trees. The fuel sold amounts to about 1½ million maunds. By far the greater portion of this has gone to the several railways and to the Commissariat Department.

Close on 50,000 maunds of fuel and 6,321 maunds of charcoal were sold to the Murree Brewery.

122. There is one item not included in the above statement which should be specially mentioned. During the year the wood standing on 60 acres of the Ludhiána plantation was sold to the Scinde, Punjab and Delhi Railway Company, who used it for the construction of a spur to prevent further erosion of the Sutlej. The Company paid Rs. 80 per acre, or a total of Rs. 4,800. The whole plantation covered an area of 190 acres, on which an outlay of close on Rs. 7,000 has been incurred, or about Rs. 37 per acre; hence the area sold has yielded a very fair return. It is expected that the stumps will coppice, and, if not, the area will be replanted.

3.—Free Grants of Forest Material.

123. The following free grants have been reported :—

Division.	Trees granted free.			Total.	Remarks.
	Deodar.	Inferior pines.	Miscellaneous.		
Chenab	4	...	...	4	
Ravi	148	...	...	148	
Beas	334	31,030	38	32,463	Granted to Zamíndárs.
Do.	145	854	62		Granted for Public Works.
Sutlej	1,234	8,372	...	9,606	
Total ...	1,865	40,256	100	42,221	

It will be seen that the number of trees granted free of payment reaches the enormous figure of 42,221, of which 1,865 are deodar. A certain portion of these trees was full grown, but the greater number were poles of the size generally used by the people of the country for building purposes.

124. The trees granted in the Chenab and Ravi Divisions were given under the Chamba lease, and the quantity is moderate.

125. In the Sutlej Division 9,606 trees and poles were given under the Bashahr lease. The number of deodar is rather large, and care should be taken in future not to give deodar when other trees can be substituted.

126. In the Beas Division no less than 32,463 trees and poles were granted, of which 30,285 were cut in Kulu, 52 in Dera, and 2,126 in Hoshiárpur and Núrpur. This is of course an enormous number, and the Conservator cannot help thinking that the needful discretion has not been exercised by the Officer in charge of the Kulu forests. The Officer in charge of the Beas Division reports that the present system of granting trees is *most injurious* to the forests. It seems particularly strange that 1,061 trees should have been granted free of charge in the Beas Division for public works. As the Conservator hopes to enquire into the whole matter during his proposed visit to Kulu in October next, nothing further need be said on the subject just at present.

127. To recapitulate, it appears that, irrespective of petty sales, the following quantities of material have been removed from the forests during the year under review :—

Division.	Trees.	Firewood.	Charcoal.	Bamboos.
	Number.	Cubic feet stacked.	Maunds.	
Jhelum	166	...	...	...
Rawalpindi	834	827,970	9,667	1,000
Fuel Reserve North	...	2,419,694	...	...
Chenab	890	28,099	...	...
Ravi	229	...	...	...
Beas	39,331	...	...	643,238
Sutlej	13,916	1,280	...	...
Fuel Reserve South	3,715	2,840,502	...	...
Plantation	...	397,960	...	...
Total ...	59,081	6,515,505	9,667	644,238

4.—Foreign Timber imported into British Territory.

128. As far as the available data go, it appears that the following timber has been imported into British territory from foreign States by the 5 main rivers :—

River by which the timber was imported.	Territory from which the timber came.	*Deodar.*		*Other Pines.*		*Sleepers.*	Other Pieces.	Total pieces timber.	Bamboos.
		Pieces.	Cubic feet.	Pieces.	Cubic feet.	Pieces.			
Jhelum	Kashmir ...	6,254	160,339	2,222	36,908	5,483	40,002	53,961	
Chenab	Kashmir ...	10,820	332,290	2,816	82,959	131,334	1,476	146,446	
Ravi	Kashmir ...	4,094	71,412	807	5,398	5,275	8,548	18,724	5,320
Beas	Kapurthala ...	...	...	...	...	...	43,927	49,997	
"	Mandi ...	...	...	...	...	6,070	...		...
Sutlej...	Mandi ...	...	...	...	...	40,000	...		
"	Bhajji ...	...	...	...	...	43,000	...		
"	Suket ...	...	...	...	...	30,000	956		3,000
"	Madhan ...	...	...	...	...	15,000	...		
"	Kumerscin ...	...	...	...	...	12,000	...	140,956	
"	Bilaspur ...	...	...	...	...	...	...	...	31,800
"	Kotlair ...	...	...	...	...	...	...	...	1,200
	Total ...	21,168	564,041	5,845	125,265	288,162	94,909	410,084	41,320

The figures for logs and sleepers compare as follows with the timber brought to market by Government agency :—

	Deodar.		Other Pines.		Sleepers.
	Logs.	Cubic feet.	Logs.	Cubic feet.	
By Government agency from forests under British control ...	13,824	243,223	2,051	31,029	17,961
Imported from foreign territory ...	21,168	564,041	5,845	125,265	288,162
Total ...	34,992	807,264	7,896	156,294	306,123

These data show that more than twice the quantity of deodar, 4 times the quantity of other pines, and 17 times the number of sleepers, have been imported from foreign territory than what was brought to depôt from the British forests.

129. In calculating the cubical contents per log, the subjoined results are obtained :—

	Average cubical contents.	
	Per deodar log.	Per other pine log.
British timber	18	15
Foreign timber	27	21

These figures show that the deodar logs imported from foreign territory are on an average 50 per cent. larger than those brought down from British forests. It is impossible to give at this moment the exact reason for this ; but considering that larger, and especially longer, logs fetch much higher prices than small and short logs, the above facts must not be lost sight of. It is possible that the trees felled in foreign forests are not so completely used up by only taking away the best pieces, or the difference may be due to the streams in foreign territory being better for floating ; but it is also possible that the manner of paying for logging and launching in the British forests has something to do with it, the practice being to pay for logging and launching *per log*, and consequently it is the interest of the woodmen to cut the logs as short as possible. The Conservator has drawn the attention of all Divisional Officers to this point, and desired them to see that in future the trees are cut up in the most advantageous lengths *for Government*, taking into consideration the floating capabilities of each stream down which the timber has to come. The surplus derived from timber operations will chiefly depend on these instructions being carefully attended to.

CHAPTER V.—FINANCIAL RESULTS.

130. The financial results of the Department are exhibited in detail in Forms 49 to 52.

The subjoined table gives receipts and charges for the last 10 years :—

Year.	Receipts.	Charges.	Surplus.	Deficit.
	Rs.	Rs	Rs.	Rs.
1870-71	10,24,420	12,35,809	...	2,11,389
1871-72	7,35,004	7,05,330	29,674	...
1872-73	6,52,995	7,95,943	...	1,42,948
1873-74	7,32,539	5,97,162	1,35,377	...
1874-75	8,34,874	6,46,480	1,88,394	...
1875-76	9,05,742	5,54,226	3,51,516	...
1876-77	5,98,754	5,22,482	76,272	...
1877-78	6,83,710	5,17,166	1,66,544	...
1878-79	5,00,620	5,23,554	..	22,935
1879-80	6,49,819	4,80,676	1,69,143	...
Average per year ...	7,31,847	6,57,883	73,964	...

It will be observed that the surplus of the year under review amounts to Rs. 1,69,143, as against a deficit of Rs. 22,935 in 1878-79, and as compared with an average surplus of Rs. 73,964 for the last 10 years. Under these circumstances the financial results of the year must be considered as satisfactory.

The revenue has increased since last year, and the expenditure has been reduced.

131. As regards the value of the year's transactions, the last two years compare as follows:—

1878-79	Rs.
Cash deficit	22,935
Difference of stock in favor of the year	84,091
Value of year's transactions, surplus	61,156

1879-80	Rs.
Cash surplus	1,69,143
Difference of stock against the year	66,949
Value of year's transactions, surplus	1,02,194

Which means that there was an improvement of Rs. 41,038 during the last year.

132. The several Divisions participate as follows in the financial results:—

Division.	Receipts.	Charges.	Surplus.	Deficit.
	Rs.	Rs.	Rs.	Rs.
Direction	47	35,454	...	35,407
Jhelum	1,68,824	43,725	1,25,099	...
Rawalpindi	54,384	38,512	15,872	...
Fuel Reserve North	53,964	29,509	24,455	...
Chenab	62,035	57,227	4,808	...
Ravi	35,279	60,463	...	25,184
Beas	74,592	61,202	13,390	..
Sutlej	41,710	57,704	...	15,994
Fuel Reserve South	96,647	42,620	54,027	...
Plantation	62,337	54,260	8,077	...
Total ...	6,49,819	4,80,676	1,69,143	...

It will be noticed that the Ravi and Sutlej Divisions show a deficit. On the Ravi no cuttings have taken place for some years back; hence the falling-off in the revenue. Arrangements have been made to recommence fellings now.

133. In the Sutlej Division a commencement has been made to work the Bashahr forests according to the working plan drawn up a few years ago, but these operations have not yet made an impression on the revenue. It may be expected that this Division will now yield a surplus steadily, as it is proposed to cut 2,000 deodar trees annually.

134. If the receipts and charges are arranged in accordance with instructions issued by the Government of India in 1877, the following table is obtained:

	Receipts.		Charges.		Surplus.	Deficit.
		Rs.		Rs.	Rs.	Rs.
I.—Departmental timber operations.	I & III	3,38,090	I, III, V, ½ VI, & ⅓ B.	2,40,281	97,809	...
II.—Other revenue	II, IV & V	3,11,729	II, IV, ¼ VI, IX, & ⅓ B.	92,459	2,19,270	...
III.—Formation, protection and improvement of Forests.	...	...	¼ VI, VII, VIII, & ⅓ B.	1,47,936	...	1,47,936
Total ...	...	6,49,819	...	4,80,676	1,69,143	...

[NOTE.—The Establishment charges B have been allotted as follows —

In the Hill Divisions ⅓ B to timber works, ⅓ B to "other revenue," and ⅓ B to "protection and improvement"; in the Plain Divisions ⅓ B to "other revenue," and ⅓ B to "protection and improvements." The result was that very nearly ⅓ of the total of B was chargeable to each heading, which proportion has therefore been adopted in the above statement.]

There is a fair surplus on timber operations; and although Rs. 1,47,936 have been spent on protection and improvement, the cash surplus still amounts to Rs. 1,69,143.

135. In order to see the results of the operations during the last 10 years, the subjoined table is added, in which the receipts and charges have been arranged according to Divisions. As the Rakh Divisions have, however, been repeatedly changed, they have been shown together. The direction charges have been divided amongst the Divisions by debiting each with one-ninth :—

Division.	Receipts.	Charges.	Surplus.
	Rs.	Rs.	Rs.
Jhelum	10,93,485	10,07,544	85,941
Chenab	11,25,152	10,73,554	51,598
Ravi	9,97,724	9,91,361	6,363
Beas	9,29,369	7,08,929	2,20,440
Sutlej	6,51,750	6,02,072	49,678
Total River Divisions ...	47,97,480	43,83,460	4,14,020
Add—			
Rawalpindi, Fuel Reserve North, Fuel Reserve South, and Plantation Divisions	25,20,996	21,95,368	3,25,628
Grand Total ...	73,18,476	65,78,828	7,39,648

This table shows that the Beas Division has yielded a surplus of upwards of two lakhs, while those of the other Divisions are moderate. The Chenab and Ravi Divisions together yielded a surplus of Rs. 57,961. During the last two years, however, the revenue from the Gujránwála rakhs, amounting to about Rs. 72,000, has been credited in the Chenab Division. If this amount, as well as the expenses connected with the protection of the rakhs, are deducted from the accounts of the Chenab Division, it will be found that the Chenab and Ravi Divisions, or, in other words, the forests leased from the Chamba State, have, during the last 10 years, neither yielded a surplus or caused a deficit.

136. It will further be observed from the above statement that the Hill Divisions have yielded a larger surplus during the last 10 years than the Plain Divisions,—a fact which has not been generally known hitherto.

137. From the statement given in paragraph 119, it will be seen that 7,328,952 cubic feet of timber, of which about 6,000,000 were deodar, have been removed from the hill forests during the last 10 years. Considering these facts, it must be admitted that the surplus revenue of about Rs 4,00,000 is small, since it amounts to about one rupee per every 15 cubic feet of deodar removed. Roughly speaking, it may be said the State obtained one anna for every cubic foot of deodar timber removed from the forests. If the period of 10 years is split up into two periods of five years each, the following results are obtained :—

	1870—1875.			1875—1880.		Total.
	Receipts.	Surplus	Deficit.	Receipts.	Surplus.	Surplus.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Hill Divisions	27,07,382	...	30,067	20,90,098	4,44,087	4,14,020
Plains „	12,72,450	29,175	...	12,48,546	2,96,453	3,25,628
Total ...	39,79,832	...	89[illegible]	33,38,644	7,40,540	7,39,648

This table shows that a decided improvement has taken place during the last five years, as compared with the previous five years, since the deficit of Rs 892, appertaining to the period of 1870-75, has been changed into a surplus of more than 7 lakhs during the period 1875-80, although the revenue in the latter period

was nearly 6½ lakhs of rupees less. This indicates that greater economy has been exercised as the organization of the Department became more developed and the general management improved.

138. Of the 6,000,000 cubic feet of deodar removed during the last 10 years, about 3,500,000 were removed between 1870 and 1875, and 2,500,000 between 1875 and 1880. Hence it will be seen that, while no surplus at all was realized in the first period, the State received a net return of a little more than 2½ annas for every cubic foot of deodar timber removed during the second period of five years.

139. The *outstandings* of the Department, as shown in the *Contractors and Disbursers ledger*, at the commencement of the year amounted to Rs. 1,02,056, and at the end of the year to Rs. 24,191. Of the latter sum Rs. 11,446 were in the hands of Government Officers, so that the amount due to Government by outsiders on account of advances comes to Rs. 12,745 only. Endeavours are being made to adjust the several items.

140. The *outstandings on account of revenue* amounted to Rs. 50,555 at the commencement of the year, and to Rs. 55,818 at its close. The latter sum is made up as follows :—

						Rs.
Outstandings on account of timber, &c.				...	...	10,450
Do.	do.	do.	grazing	...	...	45,294
Do.	do.	do.	miscellaneous	...	...	74
				Total	...	55,818

The sums due on account of grazing are collected by the Deputy Commissioners, and this Department is powerless to expedite their realization. The amount due for timber consists of a number of old items, and every exertion will be made to adjust them during the year.

On the whole, the outstandings, except those on account of grazing fees, are small.

STATEMENTS.

Annual Form No. 45.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Reserved Forests, 1879-80.

Division or Range.	Name of Forest.	Area on 1st April 1879.	Added during the year	Excluded or transferred to other heads.	Total on 31st March 1880	Remarks.
		Square miles.	Square miles.	Square miles.	Square miles.	
Jhelum	Dungagali	63	...	...	63	Under Hazara Forest Regulation (33 Vic. Cap. 3).
	Hazára ... Kaghán	90	...	.	90	
	Hazára ... Siran valley ...	33	.		33	
	Total ..	186	..	.	186	
Rawalpindi	Hazára . Khánpur .. .	50	..	..	50	Under Hazára Forest Regulation (33 Vic. Cap. 3).
	Rawalpindi Tahsíl: Margala ...	38	...	...	38	Act VII of 1878, Notification No. 95 F, dated 1st March 1879.
	Rawalpindi Tahsíl: Banigala	1	...	.	1	
	Rawalpindi Tahsíl: Tamaira ...	7	...	..	7	
	Rawalpindi Tahsíl: Maira ...	2	.	.	2	
	Attock ... Khermar .. .	6	...	.	6	
	Attock ... Kawágarh ..	7	..	...	7	
	Fatahjang ... Khairi Murt ..	29	...	..	29	
	Fatahjang ... Kaulial ..	2	..	...	2	
	Gujar Khan ... Bagham	12	..		12	
	Total ...	154	...		154	
Fuel Reserve North ..	Gujrát rakhs	2	...	...	2	Act VII of 1878, Notification No 109 F, dated 6th March 1879.
	Islands in Chenab	2	...	..	2	
	Pabbi Forest (Gujrat)	39	...		39	
	Total ...	43	...	.	43	
Chenab	Chamba ... Darwas	3	.		3	Under lease from Chamba State and rules pursuant to it
	Chamba ... Kilar	7	...	..	7	
	Chamba ... Sanch .. .	8	...	...	8	
	Chamba ... Purti	14	...	...	14	
	Chamba ... Tindi	29	...	...	29	
	Total ..	61	...	..	61	
Ravi	Kálátop	4	...	...	4	Under lease from Chamba State and rules pursuant to it.
	Kainth	1	...	...	1	
	Bakloh	2	...	.	2	
	Banni Khet	1	...	...	1	
	Ravi and Suil and Tributaries	150	...		150	
	Total ...	158	...	..	158	

BEAS	Hoshiárpur ...	Punjal	3	...	...	3	Act VII of 1878, Notification No. 110 F, dated 6th March 1879.
		Lohara	7	...	...	7	
		Darni	5	...	...	5	
		Karnpur	6	...	...	6	
		Bindraban ...	4	...	...	4	
	Amritsar ...	Gagriwal ...	1	...	...	1	
	Gurdáspur ...	Bagárian	1	...	...	1	Act VII of 1878, Notification No. 113 F, dated 6th March 1879.
		Mullanwál ...					
	Kángra ...	Derá	17	...	...	17	Notification No. 111 F, dated 6th March 1879.
		Núrpur	16	...	...	16	Notification No. 112 F, dated 6th March 1879.
	Total ...		60	...	...	60	
SUTLEJ	Bashahr		38	...	...	38	Under lease and rules pursuant to it.
FUEL RESERVE SOUTH ...	Serai Sidhu		53	...	...	53	Area incorrectly given in last return. Act VII of 1878, Notification No. 114 F, dated 6th March 1879.
PLANTATION	Lahore ...	Chánga Mánga ...	28	...	...	28	Act VII of 1878, Notification No. 115 F, dated 6th March 1879.
		Shahdara	2	...	...	2	
		Jhoke	4	...	...	4	
		Sadhánwáli and Muzang	1	...	...	1	Sadhánwáli 349 acres, Muzang 23 acres.
	Gujránwála Plantations		2	...	...	2	Kikránwáli 575 acres and Thatta Faquirulla 393 acres.
	Amritsar Plantations		3	...	...	3	Serai Amanat Khan 1340 acres, Nag 412 acres, Baharú 571 acres.
	Jullundur Plantations		1	...	...	1	Jullundur 50, Phillour 239, Sarangwal 2 blocks (1) 250 and (2) not known.
	Ludhiána and Umballa Plantations ...		1	...	...	1	Ludhiána 190 and Jagádhri 183 acres.
	Total ...		42	...	...	42	
	GRAND TOTAL ...		795	...	...	795	

NOTE.—The small difference in area as compared with the return for 1878-79 is due to slight corrections of a few acres here and there.

Annual Form No. 45.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Unreserved Forests, 1879-80.

Division and Range.	Name of Forest.	Area on 1st April 1879.	Added during the year.	Excluded or transferred to other heads.	Total on 31st March 1880.
		Square miles.	Square miles.	Square miles.	Square miles.
Rawalpindi Division.					
Rawalpindi	Various	480	...	...	480
	Total ...	480	...	...	480
Fuel Reserve North.					
Jhelum	Rakhs in plains	205	...	...	205
Gujrát	Do do.	32	...	...	32
Shahpur (Bhera) ...	Do. do.	231	...	...	231
Jhelum	Salt Range rakhs	285	...	...	285
Shahpur (Khushâb) ...	Do. do.	211	...	...	211
Jhelum River Range...	Belas	1	...	...	1
Chenab Do. ...	Do.	6	2	...	8
	Total ...	971	2	...	973
Chenab Division.					
Jhang	Various	137	...	...	137
Gujránwála	Do.	241	21	28	234
	Total ...	378	21	28	371
Ravi Division.					
Ravi	Shahpur—Khandi village forests ...	21	...	...	21
Do.	Forest area in Chamba State ...	113	...	...	113
	Total ...	134	...	...	134
Beas Division.					
Hoshiárpur	Various	66	...	...	66
Kángra	Do.	460	...	...	460
	Total ...	526	...	...	526
Sutlej Division ...	Kalesar	50	...	...	50
Fuel Reserve South Divn.					
Montgomery ...	Various	864	...	...	864
Mooltan	Do.	82	...	...	82
Muzaffargarh ...	Do.	89	...	...	89
Dera Ghází Khan ...	Do.	30	...	...	30
	Total ...	1,065	...	...	1,065
Plantation Division.					
Lahore	Various rakhs	314	...	1	313
	Grand Total ...	3,918	23	29	3,912

Annual Form No. 46.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of plantations, 1879-80.

Division.	Name of Plantation.	*On 1st April* 1879. Area.	*On 1st April* 1879. Total cost.	*During* 1879-80. Area added.	*During* 1879-80. Cost.	*On 31st March* 1880. Total area.	*On 31st March* 1880. Total cost.	Remarks.
		Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	
Jhelum ...	Pera Ghaib Island and ...	230*	341	81	1,390	311	1,731	* This is the correct area. The area shown in last year, 445·5 acres, was an estimated one.
	Saila Do. ...	182	...	...	...	182	...	
	Changlagali ...	44				44		
	Kujagali ...	12	3,234	...	123	12	3,357	
	Kotli ...	10				10		
Rawalpindi ...	Khairi Murat ...	65	978	...	...	65	978	
Fuel-Reserve, North.	Pabbi reboisement work ...	1,450	4,169	8	973	1,458	5,142	
	Pindi Tátár and Nath (Island plantations) ...	109	1,906	64	1,096	173	3,002	
	Sadoke Do. ...	14	73	3	160	17	233	
Ravi ...	Bassu plantation ...	149	3,227	...	7	149	3,234	
	Dhanru Do. ...	25	106	...	59	25	165	
Beas	Manali Forest Garden ...	2	637	† ...	29	2	666	† The expenditure on these forest gardens during 1878-79 was not added in last year's statement, but has been included in the figures now shown, which, however, are only approximately correct.
	Lee Ditto. ...	4	647	† ...	175	4	822	
Sutlej ..	Sholtu plantation ...	6	586	...	...	6	586	
	Total of Forest Divisions	2,302	15,904	156	4,012	2,458	19,916	
Plantation ...	*A.—Chánga Mánga.*							
	Chánga Mánga ...	11,409	3,81,721	...	23,022	11,409	4,04,743	
	B.—Lahore Sailaba.							
	Shahdara (Jugian, &c.) ...	1,236	23,493	...	978	1,222	24,471	14 acres washed away during the year.
	Jhok and Sádhánwáli ...	1,315	21,805	...	1,070	1,290	22,875	25 acres do. do.
	C.—Outlying plots.							
	Nag ...	412	29,120	...	153	412	29,273	
	Jullundur ...	51	3,637	...	63	51	3,700	
	Phillour ...	239	13,391	...	329	239	13,720	
	Ludhiána ...	190	6,787	...	101	190	6,888	
	Jagádhri ...	184	9,395	...	104	184	9,499	
	Thatta Faqir-ullah ...	393	3,519	...	111	393	3,630	
	Muzang (carob plot) ...	37	2,881	...	436	23	3,317	23 is the actual measurement.
	Subáthu ...	...	297	700	2,271	700	2,568	
	Baoli Lehná Singh ...	641	28,153	...	2,051	641	30,204	
	D.—Rakh Improvement.							
	Kot Lukhput rakh ...	360	8,087	125	2,575	485	10,662	
	Chichra rakh ...	55	4,898	...	358	55	5,256	
	Kikranwáli rakh ...	576	3,803	...	525	576	4,328	
	Experiments ...	...	882	...	...	...	882	
	Plantation Division expenditure.	...	2,27,847	...	15,197	...	2,43,044	
	Total of Plantation Division only.	17,098	7,69,716	825	49,344	17,870	8,19,060	53 acres lost by erosion and corrections.
	Total of whole ...	19,400	7,85,620	981	53,356	20,328	8,38,976	

NOTE.—Next year the returns from plantations will be shown.

Annual Form No. 48.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Prosecutions for breaches of Forest Rules, 1879-80.

Forest Division and Civil District.	*Injury to forests by fire.*		*Unauthorized felling or appropriation of wood and minor forest produce.*		*Grazing without permission or in tracts in which grazing is prohibited.*		*Other Offences.*		Total.			
									Prosecutions.		*Convictions.*	
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.
Jhelum Division.												
Hazára	...	...	8	21	...	...	...	...	8	21	6	16
Jhelum	...	...	10	14	4	14	4	10	18	38	11	22
Kaghán	7	7	22	49	2	7	1	1	32	64	1	...
Rawalpindi Division.												
Rawalpindi	9	56	109	325	85	40	24	32	227	453	123	298
Hazára	...	...	2	5	30	92	1	1	33	98	8	24
Fuel Reserve North Division.												
Jhelum	...	...	17	34	3	8	1	3	21	45	18	31
Shahpur	...	...	22	48	2	8	2	8	26	64	20	45
Gujrát	...	...	16	57	17	69	1	1	34	127	26	104
Chenab Division.												
Gujránwála	...	...	6	9	13	26	1	5	20	40	20	40
Shahpur	...	...	1	3	...	...	...	...	1	3	1	3
Siálkot	...	...	1	1	...	...	...	...	1	1	1	1
Ravi Division.												
Chamba State ... / Gurdáspur	10	28	30	44	1	2	3	4	44	78	32	56
Beas Division.												
Kángra	56	144	54	81	11	59	...	...	121	284	116	274
Amritsar	...	...	...	...	...	...	...	...	...	...	...	...
Gurdáspur	...	...	1	1	...	...	1	1	2	2	1	1
Hoshiárpur	1	160	8	9	1	1	2	7	12	177	9	12
Sutlej Division.												
Bashahr	5	5	...	...	1	1	2	2	8	8	8	8
Fuel Reserve South Division.												
Montgomery	6	4	6	16	4	39	12	45	28	104	20	55
Mooltan	1	...	6	8	2	3	5	6	14	17	12	15
Muzaffargarh	3	2	2	8	2	8	6	16	13	34	11	29
Dera Ghází Khan	1	3	5	8	...	...	4	4	10	15	9	13
Plantation Division.												
Gujránwála	...	...	1	2	...	...	...	...	1	2	1	2
Lahore	3	5	16	46	15	56	2	3	36	110	26	66
Amritsar	1	1	3	3	6	36	1	2	11	42	3	3
Jullundur	...	...	2	2	...	...	...	...	2	2	1	1
Umballa	...	...	...	...	1	1	...	...	1	1	1	1
Simla	...	...	1	2	1	1	...	...	2	3	2	3
Total ...	103	415	349	796	201	471	73	151	726	1,833	487	1,123

ANNUAL · FORM · No. 49.

Annual Form No. 49.—[*Prescribed*].

FOREST DEPARTMENT, PUNJAB.

Summary of Revenue and Expenditure of the different Divisions during 1879-80.

Budget Heads Receipts.	Direction.			Jhelum Division.			Rawalpindi Division.			Fuel Reserve North Division.			Chenab Division.			Ravi Division.			Beas Division.			Sutlej Division.			Fuel Reserve South Division.			Plantation Division.			Total.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
REVENUE.																																	
I.—Timber and other produce removed from the forests by Government Agency—																																	
a. Timber	...	...	...	1,50,892	9	2	...	...	...	...	...	...	23,150	11	6	31,837	11	4	48,190	10	1	40,487	1	3	...	...	...	...	...	...	2,94,558	11	4
b. Firewood and charcoal	...	...	...	29	1	0	30,209	8	9	...	...	...	660	7	8	1,240	13	10	19	11	0	...	...	...	...	...	...	...	...	...	82,159	10	3
c. Bamboos	...	...	...	...	...	...	84	0	0	...	...	...	...	...	...	...	...	...	10,680	10	9	...	...	...	...	...	...	...	...	...	10,764	10	9
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
II.—Timber and other produce removed from the forests by Consumers or Purchasers—																																	
a. Timber	...	...	...	318	0	0	3,305	6	10	1	10	8	28	13	6	63	11	0	6,569	10	9	156	2	6	1,154	7	3	...	...	...	11,597	14	6
b. Firewood and charcoal	...	...	...	8,811	5	8	16,245	6	5	18,441	1	7	228	13	6	25	0	0	20	15	6	173	7	0	39,119	11	4	29,807	1	10	1,12,872	14	10
c. Bamboos	...	...	...	...	...	...	1,104	0	0	...	...	...	...	...	...	...	...	...	9	5	8	147	11	7	...	...	...	13	8	0	1,274	9	3
d. Grazing and fodder grass	...	...	...	6,519	10	4	3,024	7	0	34,361	8	2	36,035	9	1	...	...	...	4,705	5	10	446	13	0	51,715	2	9	30,261	11	5	1,67,070	3	7
e. Other minor produce	...	...	...	905	14	0	112	2	0	203	0	0	28	0	0	...	...	...	62	11	6	...	...	...	2,194	12	9	577	12	0	4,084	4	3
III.—Confiscated, drift and waif wood	...	...	...	263	15	9	6	10	0	...	...	...	17	9	0	5	12	0	309	12	11	...	...	...	3	0	0	...	...	...	606	11	8
IV.—Revenue from forests not managed by Government—																																	
a. Duty on foreign timber and other forest produce	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	0	...	...	...	...	...	...	3	1	0
b. Revenue from shared and private forests	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,736	7	3	...	...	...	...	...	...	...	...	...	1,736	7	3
V.—Miscellaneous—																																	
a. Fines and forfeitures	...	...	...	100	9	0	...	...	...	150	0	0	1	4	0	4	0	0	1,310	6	0	20	0	0	50	0	0	30	6	0	1,666	9	0
b. Refunds	1	2	3	122	2	8	...	...	...	...	...	...	111	9	8	21	6	0	239	6	5	19	7	3	90	12	4	798	8	2	1,404	6	9
c. Other sources	45	13	8	860	9	8	292	3	0	807	3	3	1,771	14	3	2,081	2	7	737	8	7	255	14	0	2,318	12	4	847	15	5	10,019	0	9
Total Revenue	46	15	11	1,68,823	13	3	54,383	12	0	53,964	7	8	62,034	12	2	35,279	8	9	74,592	10	3	41,709	9	7	96,640	10	9	62,336	14	10	6,49,819	3	2
EXPENDITURE.																																	
A.—Conservancy and Works.																																	
I.—Timber and other produce removed from the forests by Government Agency—																																	
a. Timber	...	...	...	10,881	12	9	...	...	...	...	...	...	7,843	8	2	27,928	12	7	15,906	6	1	21,220	4	5	15,507	3	0	...	...	...	99,287	15	0
b. Firewood and charcoal	...	...	...	...	...	...	16,670	6	5	1,353	10	3	...	...	...	32	12	10	...	...	...	...	...	...	...	...	...	...	16	2	0	18,072	15	6
c. Bamboos	...	...	...	...	...	...	23	14	6	...	...	...	...	...	...	...	...	...	2,253	8	8	...	...	...	...	...	...	...	...	...	2,277	7	2
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
II.—Timber and other produce removed from the forests by Consumers or Purchasers	...	...	...	73	12	4	352	10	0	533	2	6	...	...	...	...	...	...	0	4	0	...	...	...	130	11	9	20	11	0	1,111	8	7
III.—Confiscated, drift and waif wood	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	11	2	...	...	...	...	...	...	...	...	...	18	11	2
IV.—Revenue from forests not managed by Government—																																	
a. Duty on foreign timber and other forest produce	...	...	...	...	...	...	...	...	...	...	...	...	110	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	110	0	0
b. Revenue from shared and private forests	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

| | | |

Annual Form No. 50.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Account Current for the year 1879-80.

Dr.

	Rs.	A.	P.	Rs.	A.	P.
To Cash Balance on 1st April 1879	...	...	..	14,117	8	5
„ Revenue	...	...	...	6,49,819	8	2
„ Forest Cash Remittances	...	..	..	4,53,523	3	1
„ Inter-departmental transfers—						
Government of India—Mathematical Instrument Department	423	9	5			
Government of Bengal	283	5	4			
Government of North-Western Provinces and Oudh	132	9	3			
Government of Punjab	24	13	11			
Government of Bombay	1,050	0	0			
Public Works Department	263	13	6			
Law and Justice—Jails	561	3	11			
				2,739	7	4
„ Contributions to Funds—						
Civil Ordinary Fund	480	0	0			
Uncovenanted Service Family Pension Fund	2,423	6	0			
Madras Military Fund	576	10	3			
				3,480	0	3
„ Receipts in aid of superannuation, retired and compassionate allowance—						
Subscription to Military and Military Orphan Funds	...	...	..	74	10	1
„ Imprest Advance	...	...	...	50	0	0
„ Advances Recoverable	...	..	...	1,93,763	6	5
„ Suspense	...	...	...	176	0	0
„ Deposits	...	...	...	51,628	12	0
TOTAL .	...	..	...	13,69,372	2	9

Cr.

	Rs.	A.	P.	Rs.	A.	P.
By Expenditure—						
A	2,20,827	2	10			
B	2,59,848	15	1			
				4,80,676	1	11
„ Forest Cash Remittances	...	..	...	5,65,184	2	11
„ Inter-departmental transfers—						
Public Works Department	73,959	3	5			
Military Department	9,310	6	11			
Government of India	110	1	7			
Government of Punjab	965	0	0			
Law and Justice—Jails	66	12	6			
				84,411	8	5
„ Government of Madras	...	...	..	132	5	0
„ Inter-divisional transfers	...	...	...	22	3	0
„ Advances Recoverable	...	...	..	1,74,451	12	5
„ Suspense	...	..	...	88	12	6
„ Deposits	...	...	...	54,634	7	4
„ Cash Balance on 31st March 1880	...	...	..	9,770	13	3
TOTAL ...	...	...	..	13,69,372	2	9

A. L. HOME,
Assistant Comptroller-General, (Forests).

Annual Form No. 51.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Statement of Outstandings and Liabilities on account of Contractors and Disbursers, 1879-80.

Division.	Department Debtor. At commencement of year.	Department Debtor. Recoveries in cash and value of supplies and work done during the year.			Department Debtor. At close of year			Department Creditor. At commencement of year.			Department Creditor. Payments made during the year.			Department Creditor. At close of year			Balance Due. To Department (Outstandings).			Balance Due. By Department (Liabilities).	Remarks.
		Rs.	A	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A	P	Rs.	A.	P.		
Direction ... — ...	...	4,086	13	5	4,086	13	5	1,339	6	7	2,830	12	2	4,170	2	9	83	5	4	...	
Jhelum Division	...	24,439	5	5	24,439	5	5	1,708	8	11	23,041	11	4	24,750	4	3	310	14	10	...	
Fuel Reserve North Division	...	5,604	8	4	5,604	8	4	1,335	0	10	4,269	7	6	5,604	8	4	...	...	...	...	
Chenab Division	...	12,734	11	11	12,734	11	11	(a) 4,849	14	7	12,326	2	9	17,176	1	4	4,441	5	5	...	(a).—The closing balance of 1878-79 is incorrectly shown in the Annual Report for that year as Rs. 4,566-5-1.
Ravi Do.	...	37,983	14	6	37,983	14	6	4,940	4	3	36,098	5	0	41,038	9	3	3,054	10	9	...	(b).—Rs 514 transferred from the Fuel Reserve South to the Plantation Division during 1879-80.
Beas Do.	...	52,986	0	10	52,986	0	10	5,549	9	9	56,861	4	1	62,410	13	10	9,424	13	0	...	(c).—Includes Rs. 190-15-0 under final payments.
Sutlej Do.	...	3,672	4	0	3,672	4	0	...	...	...	3,674	3	6	3,674	3	6	1	15	6	...	(d).—Rs. 582-0 Do. do. do.
Fuel Reserve South Division	...	80,488	2	2	80,488	2	2	(b) 74,096	4	7	6,988	0	8	81,084	5	3	(c) 596	3	1	...	
Plantation Division	...	30,321	13	4	30,321	13	4	8,237	4	8	28,361	13	5	36,599	2	1	(d) 6277	4	9	...	
Total	...	2,52,317	9	11	(e) 2,52,317	9	11	1,02,056	[illegible]	2	1,74,451	12	5	2,76,508	2	7	24190	8	8	...	

(e).—Total Recoveries ... Rs. 2,52,317 A. 9 P. 11
Amount shown in form 50 as credits under advances recoverable ... 1,93,763 6 5
Difference ... 58,554 3 6

represents adjustment of outstanding in the Fuel Reserve South, Fuel Reserve North, and Plantation Divisions of amounts charged to final payments before 1877-78.

A. L. HOME,
Assistant Comptroller General, (Forests).

Annual Form No. 52.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Statement of Outstandings on account of Revenue, 1879-80.

Division	Particulars.	Outstandings at commencement of year.			Value of sales and other revenue during the year.			Total.			Amount realized during the year.			Balance due to the Department at end of year.			Remarks.
		Rs	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	
Direction ...	Miscellaneous	...	...		46	15	11	46	15	11	46	15	11	...	...	...	
Jhelum .	Timber, firewood and bamboos	616	0	0	1,60.530	13	0	1,61,146	13	0	1,60,314	15	7	831	13	5	
	Grazing and fodder grass	105	0	0	6.414	10	4	6 519	10	4	6.519	10	4	...	..	...	
	Miscellaneous	.	..	...	1,989	3	4	1,989	3	4	1,989	3	4	...	...	...	
Rawalpindi ...	Timber, firewood and bamboos	...	..	...	50 955	0	0	50.955	0	0	50,955	0	0	...	...	...	
	Grazing and fodder grass	...	..	..	3 024	7	0	3,024	7	0	3,024	7	0	...	...	..	
	Miscellaneous	...	.	...	404	5	0	404	5	0	404	5	0	...	...	...	
Fuel Reserve North ...	Timber, firewood and bamboos	20	0	7	18.422	11	8	18.442	12	3	18.442	12	3	...	.	...	
	Grazing and fodder grass	13,020	2	7	45.866	13	4	58 886	15	11	34,361	8	2	24.525	7	9	
	Miscellaneous	...	..	..	1,160	3	3	1,160	3	3	1.160	3	3	...	..	...	
Chenab ...	Timber, firewood and bamboos	7,253	15	0	24.086	7	2	31,340	6	2	24.086	7	2	7 253	15	0	
	Grazing and fodder grass	...	..	.	37,898	13	1	37.898	13	1	36.035	9	1	1,863	4	0	
	Miscellaneous	..	.	.	1,912	11	11	1,912	11	11	1,912	11	11	...	...	.	
Ravi ...	Timber, firewood and bamboos	1 837	4	11	33,022	7	7	34,859	12	6	33,173	0	2	*B* 1,349	2	6	
	Grazing and fodder grass	...	.	.	...	.	..	.	.		...	.	...	...	...	...	
	Miscellaneous	...		...	2,106	8	7	2,106	8	7	2,106	8	7	...	..	...	
Beas ...	Timber, firewood and bamboos	59	13	7	65.744	8	1	65,804	2	8	65.800	12	8	3	6	0	
	Grazing and fodder grass	44	0	0	4.661	5	10	4,705	5	10	4,705	5	10	...	...	...	
	Miscellaneous	...		.	4,086	7	9	4,086	7	9	4,086	7	9	...	...	...	
Sutlej ...	Timber, firewood and bamboos	...	..	.	40,964	6	4	40,964	6	4	40.964	6	4	...	...	..	
	Grazing and fodder grass	...		..	446	13	0	446	13	0	446	13	0	...	...	...	
	Miscellaneous	...		..	298	6	3	298	6	3	298	6	3	...	...	...	
Fuel Reserve South ...	Timber, firewood and bamboos	...	.	..	40 277	2	7	40,277	2	7	40.277	2	7	...	..	.	
	Grazing and fodder grass	*A* 16,282	6	6	44 652	15	6	60.935	6	0	51,715	2	9	*C* 9,184	9	3	
	Miscellaneous	2,126	6	1	2,581	15	11	4.708	6	0	4,654	5	5	54	0	7	
Plantation ...	Timber, firewood and bamboos	869	3	6	29,962	6	8	30 831	10	2	29,820	9	10	1.011	0	4	
	Grazing and fodder grass	8 320	4	6	31 662	5	8	39.982	10	2	30.261	11	5	9,720	14	9	
	Miscellaneous	...	...	.	2,274	9	7	2,274	9	7	2,254	9	7	20	0	0	
	Total	50.554	9	3	6,55.455	7	4	7,06,010	0	7	6,49,819	3	2	*D* 55,817	9	7	

A.—Rs. 24.044-1-6 struck out by ord r of Comptroller-General as revenue of 1878-79.
B.—Rs. 337-9-10 struck out by order of Financial Commissioner. No. 5641, dated 5th September 1878.
C—Rs. 35-10-0 struck out by Punjab Government No. 459 F, dated 10th November 1879.
D.—A total of Rs. 373-3-10 has been struck off—*vide* remarks above.

Form No. 53.

FOREST DEPARTMENT, PUNJAB.

Statement of Trees felled during the year 1879-80.

Division.	Forest Range.	Locality.	Description of trees.	On hand from previous year.	Felled during current year.	Total	Disposed of during current year.		Closing balance	Remarks.
				No.	No.	No.	How disposed of.	No.	No.	
Jhelum ...	Dungagali ...	Various ...	P. excelsa ...	50	...	50	Sold ...	2	48	
	Do. ...	Do. ...	A. Webbiana ...	...	78	78	Sawn up ...	78	...	
	Do. ...	Do. ...	P longifolia ..	...	14	14	Do ..	14	..	
	Do. ...	Do. ...	Oaks ...	...	9	9	Do. ..	9	..	
	Do. ...	Do. ...	Other trees ...	...	37	37	Do ...	37	...	
			Total ...	50	138	188	...	140	48	
Chenab ...	Pangi ...	Tindi ...	Deodar ...	..	886	886	Logged ...	886	...	586 were wind fall trees.
Ravi ...	Kálátop ...	Kálátop ...	Deodar ...	147	..	147	Sawn up ..	84	63	
	Do ...	Do ...	Oak ...	...	3	3	Do. ...	3	...	
	Banikhet ...	Banikhet ...	P. longifolia ...	...	18	18	Do. ..	18	...	
	Eastern and Western ...	Bora ...	Chil ...	...	60	60	Do. ...	60	...	
			Total ...	147	81	228	...	165	63	
Beas ...	Kulu ...	Párbatti ...	Deodar ...	...	357	357	Logged ...	357	...	
	Do. ...	Seoraj ...	Do ...	..	50	50	Sawn into sleepers	50	...	
	Do. ...	Parbátti ...	Other Pines ...	...	311	311	Felled and logged	311	...	
	Do. ...	Dera ..	Do. ...	...	70	70	Sawn into kurries	70	...	
			Total ...	..	788	788	..	788	...	
Sutlej ...	Bashahr ...	East Nachar ..	Deodar ...	...	580	580	Logged ...	580	...	
	Do. ...	West do ...	Do. ...	...	119	119	Do. ...	119	...	
	Do. ...	Kumkumi ...	P excelsa ...	...	200	200	Do. ...	200		
	Do. ...	Ramni ...	Do. ..	...	1,200	1,200	Do. ...	660	540	Timber for 1880-81.
	Do. ...	Jani ...	Do ..	...	290	290	Do. ...	196	94	
	Do. .	Do. ..	Deodar ...	...	235	235	Do. ...	219	16	
	Do. ...	Phinla ...	Do. ..	...	160	160	Do ..	160	...	
	Do. ...	Tickru ...	Do. ...	...	100	100	Do. ...	77	23	
			Total ...	...	2,884	2,884	...	2,211	673	
Fuel Reserve, South ...	Montgomery ...	Various ...	Capparis A. ...	...	3,692	3,692	Sold ...	3,692	...	For rafters.
	Do ...	Do. ...	A Arabica ...	...	1	1	Do. ...	1	...	Beams.
	Do. ..	Do. ..	T articulata ..	...	10	10	Do. ...	10		Do.
	Dera Ghází Khan ...	Fazilpur ..	Capparis A. ...	...	12	12	Do. ...	12	...	For rafters.
			Total ...	...	3,715	3,715	...	3,715	..	

Appendix to Form 53.

FOREST DEPARTMENT, PUNJAB.

Timber and Fuel removed from the Forests by Purchasers.

Division.	Range.	Number of trees sold.					Firewood, Cubic Feet stacked		Charcoal.	Remarks.
		Deodar.	Other pines	Miscellaneous trees.	Total	Total of Division	Per Range.	Total of Division	Maunds	
Jhelum	Dungagali	...	12	16	28	28	..	...	...	
Rawalpindi	Khánpur	...	2	...	2	...	29,100	...	...	
	Murree	...	411	253	664	...	267,693	...	6,321	
	Kahúta	...	139	12	151	...	204,950	...	...	
	Rawalpindi	...	3	...	3	...	...	...	...	
	Attock	...	...	1	1	...	36,300	...	...	
	Fatehjang	...	...	13	13	834	52,163	590,206	...	
Fuel Reserve North	Jhelum	...	...	...	...	...	2,382,987	...	...	
	Gujrát	...	...	...	...	...	36,707	2,419,694	...	
Chenab	Gujránwála	...	...	...	...	...	28,099	28,099	...	
Beas	Kulu	263	55	26	344	...	...	...	...	
	Dera	...	1 258	170	1,428	...	...	...	..	
	Hoshiárpur & Nurpur ..	...	1,771	2,509	4,280	...	...	...	...	
	Lower River	...	..	28	28	6,080	...	...	...	
Sutlej	Kalesar	...	...	1,426	1,426	1,426	1,280	1,280	...	
Fuel Reserve South	Montgomery	...	...	...	...	..	2,444,875	...	...	
	Mooltan	...	...	..	...	...	245,317	...	...	
	Muzaffargarh	...	...	...	...	...	141,310	...	...	
	Dera Gházi Khan ...	...	...	...	...	...	9,000	2,840,502	...	
	Total ...	263	3,651	4,454	..	8,368	...	5,879 781	6,321	

NOTE.—Petty fuel sales, in which the quantity removed could not be ascertained, are not included in this Statement.

Form No. 54.

FOREST DEPARTMENT, PUNJAB.

Statement of Logs, Sleepers, and other Scantlings, cut and exported during the year 1879-80.

Division.	Forest Range.	Locality.	Description of timber and scantling.	On hand from previous year.		Cut during current year.		Total.		Disposed of during current year.			Closing balance.		Remarks.
				No.	C. ft.	No.	C. ft.	No.	C. ft.	How disposed of.	No.	C. ft.	No.	C. ft.	
Jhelum ...	Khágán ..	Dhanu ...	Deodar logs ...	...	...	53	...	53	...	...	...	...	53	...	
		Suki Kass ...	Do. ...	350	...	625	...	975	...	Launched ...	371	...	604	...	
		Bunja ...	Do. ...	4,889	...	...	...	4,889	...	...	...	...	4,889	...	
			Total Jhelum ...	5.239	...	678	...	5.917	.	...	371	...	5,546	...	
Chenab ...	Pangi ...	Tindi ...	Deodar logs ...	...	...	2,058	30,058	2.058	30,058	Launched ...	2,058	30,058	...	...	
	Do. ...	Do. ...	Do. ...	...	...	872	20.440	872	20,440	Do. ...	872	20,440	...	...	
			Total Chenab ...	...	...	2,930	50,498	2,930	50,498	...	2.930	50,498	...	...	
Ravi ...	Kálátop ...	Kálatop ...	Deodar scantlings ..	1,061	1,177	2,524	3,484	3.585	4,661	Sold, &c ...	3,048	4,081	537	580	
			Tos do. ...	389	484	1,094	1,398	1,483	1,882	Do. ...	1,203	1,435	280	447	
			Oak do. ...	140	112	238	54	378	166	Do. ...	299	118	79	48	
	Churrah ...	Various ...	Broad-gauge sleepers ...	...	...	19,687	...	19.687	...	Launched ...	14,880	...	4,807	...	
	Upper forests ...	Various ...	Deodar logs ...	...	...	888	...	888	...	Do. ...	888	...	...	...	
			Do. ...	...	...	972	...	972	...	Do. ...	972	...	...	...	
			Do. ...	...	...	640	...	640	...	Do. ...	640	...	...	...	
			Total ...	1.590	1,773	26.043	4,936	27,633	6,709	...	21,930	5,634	5,703	1,075	
Beas ...	Kulu ...	Sandhar ...	Deodar scantlings ...	3,594	15.556	...	...	3.594	15,556	Launched ...	150	646	3,444	14 910	
		Bagruri ...	Broad-gauge sleepers ...	1,675	5 838	...	...	1.675	5,838	Do ...	189	655	1,486	5,183	
		Do. ...	Other scantlings ...	278	354	...	...	278	354	Do. ...	39	56	239	298	
		Bakriala Nal ...	Broad-gauge sleepers ...	6,462	22,422	119	412	6,581	22,834	Do. ...	2.070	7,182	4,511	15,652	
		Do. ...	Other scantlings ...	822	1,194	14	23	836	1.217	Do. ...	558	887	278	330	
		Naj dhar ...	Broad-gauge sleepers ...	8,435	29,267	...	...	8,435	29,267	Do. ...	8,435	29,267	..	...	
		Do. ...	Other scantlings ...	903	1,436	...	...	903	1,436	Do. ...	903	1,436	...	..	
		Ballo ...	Broad-gauge sleepers ..	2,249	7,902	100	347	2,349	8,149	Do. ...	1,621	5,624	728	2,525	
		Do. ...	Other scantlings ...	275	412	..	...	275	412	Do. ...	233	364	42	48	
		Blajdhar ...	Broad-gauge sleepers ...	...	...	907	3,156	907	3,156	Do. ...	907	3,156	...	...	
		Do. ...	Other scantlings ...	...	...	127	195	127	195	Do. ...	127	195	...	...	
	Dera ...	Majin ...	Do. do. ..	...	...	742	2,259	742	2,259	..	...	...	742	2,259	
	Lower river ...	River islands ...	Broad-gauge sleepers ...	23	80	301	1,044	324	1,124	Launched ...	305	1,059	19	65	
	Do. ...	Do. ...	Other scantlings ...	33	94	422	1 351	455	1,445	Do. ...	350	1.117	105	328	
	Kulu ...	Phulga ...	Deodar logs ...	...	...	2,001	52,620	2,001	52,620	Do. ...	2,001	52,620	...	...	
		Do. ...	Pine do. ...	...	...	52	780	52	780	Do. ...	52	780	...	...	
		Kalunga ...	Do. do. ...	...	...	2,193	32,895	2,193	32 895	Do. ...	2,193	32,895	...	...	
			Total Beas ...	24,749	84,455	6,978	95,082	31,727	179,537	...	20,133	137,939	11,594	41,598	

Form No. 54.—CONCLUDED.

FOREST DEPARTMENT, PUNJAB.

Statement of Logs, Sleepers, and other Scantlings, cut and exported during the year 1879-80.

Division.	Forest Range.	Locality.	Description of timber and scantlings.	On hand from previous year.		Cut during current year.		Total.		Disposed of during current year.			Closing balance.		Remarks.
				No.	C. ft.	No.	C. ft.	No.	C. ft.	How disposed of.	No.	C. ft.	No.	C. ft.	
Sutlej	Bashahr	Tickru	Deodar logs	600	..	972	...	1,572	...	Launched	872	...	700	...	
		Phinla	Do.	500	...	1,303	...	1,803	...	Do.	853	...	950	...	
		Junpan	Do.	132	...	385	...	517	...	Do.	357	...	160	...	
		East Nachar	Do.	...	...	3,493	...	3,493	...	Do.	3,243	...	250	...	
		West Nachar	Do.	...	...	432	...	432	...	Do.	432	...	...	...	
		Sapni	Do.	...	...	38	...	38	...	Do.	38	...	...	...	
		Lipa	Do.	...	...	590	...	590	...	Do.	590	...	...	...	
		Buspa valley	Do.	...	...	1,348	...	1,348	...	...	..	...	1,348	...	
		Jani	Do.	...	...	1,120	...	1,120	...	...	...	...	1,120	...	
		Kumkumi	Pinus excelsa	..	...	688	...	688	...	Launched	688	...	...	...	
		Junpan	Do.	...	...	7	...	7	...	Do.	7	...	...	...	
		Ramni	Do.	...	...	2,400	...	2,400	...	...	...	...	2,400	...	
		Jani	Do.	...	...	900	...	900	...	...	...	...	900	...	
		Ramni	Scantlings	...	...	130	...	130	...	Launched	130	...	...	...	
			Total	1,232	...	13,806	...	15,038	...	..	7,210	...	7,828	...	
			FUEL FELLINGS.												
Plantation Division.	Chánga Mánga	Blocks I, III	Sissu	...	420,438	...	701	...	421,139	Sold	...	421,139	...	...	The fuel was cut by Departmental agency, stacked along the roads and sold in situ; hence it does not appear in Form 55.
	Do	Do I, II, IV	Mixed	...	.	...	284,504	...	284,504	...	...	...	...	284,504	
	Lahore sailaba	Shahdara	Sissu	...	81,630	...	...	...	81,630	Sold	...	81,630	...	...	
	Do.	Jugián	Do.	...	156,150	...	...	...	156,150	Do.	...	155,364	...	786	
	Do.	Chung	Do.	...	...	...	10,930	...	10,930	...	...	...	...	10,930	
	Sharkpur	Bhagour	Jhand	..	36,000	...	54,880	...	90,880	Sold	...	90,880	...	...	
	Do.	Kothála	Kikar	...	12,000	...	...	...	12,000	Do.	...	4,035	...	...	
	Do.	Kanjriwála	Jhand	...	...	...	800	...	800	Do.	...	800	...	...	
	Lahore rakhs	Bakanta	Do.	...	24,000	...	4,838	...	28,838	Do.	...	28,838	...	...	
	Amritsar rakhs	S. A. Khan	Mixed	...	...	...	107	...	107	Do.	...	107	...	...	
	Delhi Circle	Phillour	Do.	...	...	...	41,200	...	41,200	...	...	...	...	41,200	
			Total	...	730,218	...	397,960	...	1,128,178	...	...	782,793	...	337,420	

Annual Form No. 55—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB

Statement of Timber and other Produce brought to Depôt from the different Forest Divisions, 1879-80.

Division	Forest	Description of Timber, &c.	No. of Pieces.	No. of Cubic feet.	Total of each Division. Pieces	Total of each Division. Cubic feet.
Jhelum	Kaghán	Deodar logs	1,771	59,213		
	Do	Other pine logs	134	2,751		
	Dungagali	Other scantlings	9,789	11,011		
	Kaghan	Scraps and pieces	13	116	11,647	73,091
Chenab	Aknoor	Deodar logs	3,482	52,613		
	Do	Other pine logs	123	1 509		
	Upper forests	Broad-gauge sleepers	1,956	6,130		
	Do.	Narrow do	650	867		
	Do.	Other scantlings	1,324	761		
	Upper river	Pencil cedar	9	43		
	Do.	Tun	4	21		
	Do.	Ash	6	21		
	Do.	Walnut	21	67		
	Do.	Scraps and pieces	...	9,303	7,575	71,335
Ravi	Upper forests	Deodar logs	1,578	26,857		
	Do	Other pine logs	426	4,520		
	Do.	Broad-gauge sleepers	6,231	21,621		
	Kálátop	Other scantlings	3,856	4,929		
	Upper river	Sissoo	48	511		
	Do.	Scraps and pieces	2,160	15 067	14,299	73,505
Beas	Kulu	Deodar logs	658	13,583		
	Do.	Other pine logs	508	8 929		
	Do.	Broad-gauge sleepers	8,385	20,094		
	Do.	Narrow do	16	21		
	Do.	Other scantlings	3,441	8,957		
	Do	Walnut logs	38	249		
	Do.	Maple do	57	392		
	Do.	Scraps and pieces	230	537	13,333	61,762
Sutlej	Bashahr	Deodar logs	6,395	90 957		
	Do.	Other pine logs	860	13,320		
	Do	Broad-gauge sleepers	83	288		
	Do.	Narrow do.	640	966		
	Do.	Other scantlings	1	3		
	Do.	Scraps and pieces	3 124	9,791	11,103	115,319
		Grand Total	...	...	57,957	395,012
Jhelum	Dungagali	Shingles	70,100	...	70,100	
Rawalpindi	..	Fuel (maunds)	59,441	...		
		Charcoal (maunds)	3 346	..	62,787	
		Bamboos	1,000	...	1,000	
Beas	Kulu Hoshiárpur and Dhamtal	Bamboos	643,238	...	643,238	

Annual Form No. 56.

FOREST DEPARTMENT, PUNJAB

Account of Timber and other Produce, 1879-80.

Particulars		Pieces. Number	Pieces. Cubic feet.	Total. Number	Total. Cubic feet.
By Balance at commencement of year.					
Jhelum Division.	Deodar logs ...	4,922	197,643		
	Other pine logs ...	182	5,916		
	Pencil cedar logs ..	1	22		
	Scantlings .	28,58	2,474		
	Scraps and pieces...	5	82		
				7,968	206,087
Chenab Division.	Deodar logs ...	604	9,910		
	Other pine logs ...	116	1,548		
	Scantlings ...	478	799		
	Scraps and pieces...	.	191		
				1,198	12,478
Ravi Division	Deodar logs ...	22	991		
	Scantlings ...	1,512	1,744		
	Scraps and pieces...	971	..		
				2,535	2,735
Beas Division.	Deodar logs .	69	2,165		
	Other pine logs ..	4	191		
	Broad-gauge sleepers	8	28		
	Other scantlings ...	3 392	10,718		
	Box wood ...	16	12		
	Walnut ...	9	51		
	Maple ...	42	272		
				3,540	13,437
Sutlej Division.	Deodar logs ...	115	1,056		
	Other pine logs ...	42	537		
	Sál poles ...	452	...		
				609	1,593
Received during the year					
Jhelum Division.	Deodar logs ...	1 711	59 213		
	Other pine logs ...	134	2,751		
	Scantlings ...	9,789	11,011		
	Scraps and pieces ..	13	116		
				11,647	73,091
Chenab Division.	Deodar logs ...	3.482	52,613		
	Other pine logs ...	123	1 509		
	Broad-gauge sleepers	1,958	6,130		
	Narrow-gauge do.	650	867		
	Other scantlings ...	1,324	761		
	Pencil cedar ...	9	43		
	Tun ...	4	21		
	Ash ...	6	21		
	Walnut ...	21	67		
	Scraps and pieces ...	...	9,303		
				7.575	71,335

Particulars		Pieces. Number.	Pieces. Cubic feet.	Total. Number.	Total. Cubic feet.
Removed by purchasers.					
Jhelum Division.	Deodar logs ...	5,738	215 010		
	Other pine logs	64	2 153		
	Scantlings .	12,647	13,485		
	Scraps and pieces .	18	148		
				18,467	230,796
Chenab Division.	Deodar logs ...	1,701	26 904		
	Other pine logs ...	229	2 914		
	Broad-gauge sleepers	1 891	5 927		
	Narrow-gauge do....	521	695		
	Other scantlings	1,775	1,120		
	Scraps and pieces ...	...	9,494		
				6,117	47,054
Ravi Division.	Deodar logs ...	1,600	27,848		
	Other pine logs ...	426	4 520		
	Broad-gauge sleepers.	3,976	13,797		
	Scantlings ...	2 075	2,615		
	Scraps and pieces ...	3,131	15,067		
	Sissoo ..	48	511		
				11,256	64,358
Beas Division.	Deodar logs ...	703	14,639		
	Other pine logs ...	474	8,377		
	Broad-gauge sleepers	8,320	28,878		
	Narrow-gauge do. ..	16	21		
	Other scantlings	6,317	18,239		
	Scraps and pieces ...	202	446		
				16,032	70,600
Sutlej Division.	Deodar logs ..	2,716	51 687		
	Other pine logs ...	422	7,748		
	Scantlings ...	1	3		
	Sál poles ...	415	.		
	Scraps and pieces ...	3,094	9,791		
				6,648	69,229
Cut into sleepers, &c.					
Chenab Division.	Deodar logs ...	690	10,227		
				690	10,227
Beas Division.	Walnut logs ...	27	187		
	Maple do ..	76	531		
				103	718
Sutlej Division.	Deodar logs ...	189	1,795		
				189	1,795
Lost and used by the Department.					
Jhelum Division.	Deodar logs ..	46	1,923		
	Pencil cedar ...	1	22		
				47	1.945
Chenab Division.	Deodar logs ...	21	546		
	Scantlings ...	27	440		
	Walnut do. ...	3	17		
				51	1,003

Annual Form No. 56—CONTINUED.

FOREST DEPARTMENT, PUNJAB

Account of Timber and other Produce, 1879-80.

Particulars		Pieces		Total	
		Number	Cubic feet	Number	Cubic feet.
Ravi Division.	Deodar logs	1,578	26 857		
	Other pine logs	426	4 520		
	Broad-gauge sleepers	6 281	21 621		
	Other scantlings	3 856	4,929		
	Scraps and pieces	2 160	15 067		
	Sissoo	48	511		
				14,299	73,505
Beas Division	Deodar logs	658	13 583		
	Other pine logs	508	8 929		
	Broad-gauge sleepers	8,385	29,091		
	Narrow-gauge Do.	16	21		
	Other scantlings	3,411	8,957		
	Walnut do.	38	249		
	Maple do.	57	39[illegible]		
	Scraps and pieces	230	537		
				13,333	61,762
Sutlej Division	Deodar logs	6,395	90,957		
	Other pine logs	860	19,320		
	Broad-gauge sleepers	83	288		
	Narrow-gauge do.	640	960		
	Other scantlings	1	3		
	Scraps and pieces	3,124	9,791		
				11,103	115,319
Total		...	...	73,807	631,342

Particulars.		Pieces.		Total	
		Number.	Cubic feet.	Number.	Cubic feet.
Ravi Division.	Scantlings	2,427	2,981		
				2,427	2,981
Beas Division.	Deodar logs	21	1,011		
	Other pine logs	1	95		
	Broad-gauge sleepers	4	4		
	Box wood	1	1		
	Walnut	...	1		
	Maple	...	1		
				27	1,113
Sutlej Division.	Sál poles	37	...		
				37	
Balance at close of year.					
Jhelum Division.	Deodar logs	849	39,923		
	Other pine logs	252	6,514		
				1,101	46,437
Chenab Division.	Deodar logs	1,671	24,876		
	Other pine logs	10	11[illegible]		
	Broad gauge sleepers	65	20[illegible]		
	Narrow-gauge do.	129	172		
	Pencil cedar	9	4[illegible]		
	Tun	4	21		
	Ash	6	21		
	Walnut	18	5[illegible]		
				1,915	25,52[illegible]
Ravi Division.	Broad-gauge sleepers	2,255	7,824		
	Other scantlings	896	1,077		
				3,151	8,901
Beas Division.	Deodar logs	3	97		
	Other pine logs	37	618		
	Broad gauge sleepers	69	240		
	Other scantlings	516	1,436		
	Walnut logs	20	112		
	Maple logs	23	132		
	Box wood	15	12		
	Scraps and pieces	28	91		
				711	2,768
Sutlej Division.	Deodar logs	3,605	38,541		
	Other pine logs	480	6,109		
	Broad-gauge sleepers	83	288		
	Narrow-gauge do.	640	960		
	Scraps and pieces	30	...		
				4,838	45,888
Total		...	...	73,807	631,342

ABSTRACT OF TIMBER OPERATIONS DURING 1879-80.

Balance in hand at commencement of the year	...	...	15,850	236,330
Received during the year	...	..	57,957	395,012
Total	...	.	73,807	631,342

Removed by purchasers	..	...	58,520	482,037
Cut into sleepers, &c.	...	...	982	12,740
Lost and used by the Department	..	...	2,589	7,042
Balance at close of year	...	..	11,716	129 523
Total	...	...	73,807	631,342

Annual Form No. 56—CONCLUDED

FOREST DEPARTMENT, PUNJAB

Account of Timber and other Produce, 1879-80.

Particulars	Pieces. Number.	Pieces. Cubic feet.	Total. Number.	Total. Cubic feet.	Particulars.	Pieces. Number.	Pieces. Cubic feet.	Total. Number.	Total. Cubic feet.
FIREWOOD AND CHARCOAL.									
Balance in hand at commencement of year					*Removed by purchasers.*				
Rawalpindi Division. Firewood ..	...	...	...	...	Rawalpindi Division. Firewood, mds. ...	58,191	...		
Rawalpindi Division. Charcoal ...	...	...	...	...	Rawalpindi Division. Charcoal do. ...	3,346	..	61,537	..
Received during the year.					*Lost by dryage.*				
Rawalpindi Division. Firewood, mds. ...	59,441	...			Rawalpindi Division. Firewood do. ...	615	...		
Rawalpindi Division. Charcoal do. ...	3,346	...	62,787	...				615	
					Balance at close of year.				
					Rawalpindi Division. Firewood do. ...	635	...	635	..
Total ...	..	...	62,787	...	Total ...	...	...	62,787	...
BAMBOOS									
Balance in hand at commencement of year.					*Removed by purchasers*				
Rawalpindi Division ...	...	...	...		Rawalpindi Division ...	700	...	700	...
Beas Division ..	8,965	..	8,965	..	Beas Division	6,44,724	...	6,44,724	...
Received during the year.					*Lost and used by the Department.*				
Rawalpindi Division ..	1,000	...	1,000	...	Rawalpindi Division ...	..	...	...	..
Beas Division	6,43,238	...	6,43,238	...	Beas Division	826	...	826	...
					Balance at close of year.				
					Rawalpindi Division ...	300	...	300	
					Beas Division	6,653	...	6,653	...
Total ..	...	...	6,53,203	...	Total ...	...	...	6,53,203	...
SHINGLES.									
Balance in hand at commencement of the year					*Removed by purchasers*				
Jhelum Division ...	...	...	...	...	Jhelum Division	70,100	...	70,100	...
Received during the year.					*Balance in hand at close of year.*				
Jhelum Division ...	70,100	...	70,100	...	Jhelum Division	...	...	...	...
Total ...	..	...	70,100	...	Total ...	...	...	70,100	...

Form No. 60.

FOREST DEPARTMENT, PUNJAB.

Abstract showing the value of Timber and of Live and Dead Stock for the year 1879-80.

Description of Timber and other Stock.	On hand at commencement of the year.		On hand at close of the year.			Difference.		Remarks.
	No.	Value.	No.	Cubic contents.	Value.	In favor of the year.	Aganist the year.	
		Rs.			Rs.			
Deodar timber, cubic feet	211,795	1,32,371	6,131	103,427	64,642	...	67,729	Deodar valued at 10 annas a cubic foot.
Other pine „ „	8,192	2,730	779	13,414	4,192	1,462	...	Other pines „ at 5 „ „
Fancy wood, No.	520	520	95	391	98	...	422	Fancy wood „ at 4 „ „
Broad-gauge sleepers, cubic feet	28	14	2,472	8,555	6,180	6,166	...	Broad-gauge sleepers at Rs. 2-8-0 each.
Narrow-gauge „ „	...	...	769	1,132	1,153	1,153	...	Narrow-gauge „ at Rs. 1-8-0 „
Other scantlings „	15,735	7,867	1,412	2,513	1,256	...	6,611	Other scantlings at 8 annas a cubic foot.
Scraps and pieces „	223	14	58	91	6	...	8	Scraps and pieces at 1 anna a cubic foot.
Bamboos	...	...	6,953	...	146	146	...	
Firewood, maunds	...	...	635	...	159	159	...	Firewood at Rs. 25 per 100 maunds.
Live and Dead-stock	...	1,02,909	...	...	1,01,644	...	1,265	
Total ...	* 236,493	2,46,425	19,304	129,523	1,79,476	...	66,949	

* The closing balance shown in last year's form is slightly incorrect.

Appendix A to the Annual Report for 1879-80.

FOREST DEPARTMENT, PUNJAB.

Register of Floods during the year 1879-80.

I.—JHELUM RIVER (*at Jhelum*).

Date.	Height of flood.
	Feet.
April 1 ...	198 4
10 ...	198 2
20 ...	198 0
May 1 ...	197 8
" 10 ...	198 0
" 20 ...	197 4
June 1 ..	200 1
" 10	197 9
" 18 .	200 8
" 24 .	202 0
July 1 ...	201 7
" 3 ...	202 4
" 10 ...	201 7
" 20 ...	198 9
" 23 ...	200 5
August 1 ...	198 4
" 11 ...	200 8
" 20 ...	200 0
September 1 ...	198 2
" 10 ..	198 0
" 20 ...	197 0
October 1 ...	196 8
" 15 ..	196·0
November 1 ...	195·6
December 1 ...	195·1
" 15 ...	194 8
1880.	
January 1 ...	195 3
" 15 ...	195 1
February 1 ...	195 2
" 15 ...	195 8
March 1 ...	195 7
" 15 ...	197 7
" 31 ...	199·2

II.—CHENAB RIVER.

Date.	Height of flood.
June 30 ...	11·7
July 10 .	13·7
August (?) ..	15·7

III.—RAVI RIVER (*at Sidhaura.*)

Date.	Height of flood.
	Feet.
June 1 ...	8 3
" 18 ...	9 2
" 21 ...	9 0
" 24 ..	10 6
" 28	9 8
July 1 ...	9 6
" 3 ...	11·4
" 10 ...	10 8
" 21 ...	10 9
" 23 ...	10 0
" 31 ...	12 2
August 4 ...	13 2
" 11 ...	15 4
" 16 ...	10·2
" 18 ...	12 1
" 20 ...	14 2
" 24 .	12 8
" 26 ...	9 1
Sept. 2 ...	9 0
" 6 ...	8 8
" 11 ..	7 1
" 20 ...	4 7
" 30 ...	4 6

IV.—BEAS RIVER.

Date.	Height of flood.
June 1 ...	1 3 feet above low water level at Railway bridge.
" 3 ..	2 1
" 17 ...	1·5
" 27 ...	4 8
July 1 ...	7 8
" 5 ...	6 3
" 10 ...	8 2
" 18 ...	5 4
" 22 ...	7·7
" 30 ...	6 0
August 5 ...	9 2
" 12 ...	10 1
" 16 ...	6 7
" 21 .	7 6
" 25 .	7 4
Sept. 4 ...	6 4
" 9 "	6 7
" 16 ...	4·1
" 25	2 1
" 30 ..	1 3

V.—SUTLEJ RIVER (*at Rupar*).

Date.	Height of flood.
March 14 ...	6 4
June 17 ...	9 5
" 24 ...	14 1
" 26 ...	10 1
July 1 .	9 5
" 3 ...	10 1
" 10 .	11 4
" 11 ...	10 5
August 3 ...	9 9
" 5 ...	10 4
" 10 ...	13 1
" 11 ...	13 0
" 20 ..	9 4
" 21 ...	11 3
" 25 ..	10 4
Sept. 11 ..	8 2

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

PUNJAB

FOR

1880-81,

By W. SCHLICH, Esq., Ph. D.,

CONSERVATOR OF FORESTS.

Lahore:

PRINTED AT THE CENTRAL JAIL PRESS,

1881.

Proceedings of the Hon'ble the Lieutenant-Governor of the Punjab, in the Department of Revenue, Agriculture and Commerce (Forests),—No. 395F., dated Lahore, 17th September 1881.

READ—

Report on Forest Administration in the Punjab for the year 1880-81.

REMARKS.—The Forest Report is due on 1st August. This report was submitted in manuscript on that date, but, owing to the outbreak of cholera in the Lahore Central Jail, delay took place in printing, and the printed report did not reach Government till the 6th September.

2. The full staff of Forest Officers has at last been obtained, and satisfactory progress has been made in carrying out the plan of re-distributing the forest charges so as to make their limits correspond more nearly with those of the civil districts. The number of forest divisions has been increased from 9 to 11. The Conservator is of opinion that there should ultimately be 19 separate divisional forest charges—each of seven districts in the centre and south-west of the Province, having a separate Divisional Forest Officer under the Deputy Commissioner to look after the large rakhs and keep them up as fuel and grazing lands—and promises to submit at an early date further proposals towards carrying out this plan. The Lieutenant-Governor anticipates that, if the necessity for so large an increase in expenditure under the head of Direction is sufficiently justified, this re-distribution of charges will aid greatly towards rendering the Forest administration of the Province more effective; but in some cases it will be sufficient if the civil divisions of Commissioners are made the limits of forest charges—it will not be necessary in every case to follow the limits of districts. In the hill divisions, His Honor would deprecate placing an officer who has charge of the timber trade of a river, *e. g.*, the Jhelum, in charge of a large forest tract as well, as the charge of timber on a river requires the constant presence of an officer, and the forests are likely to be neglected if combined with such a charge. The subordination of Forest Officers to District Officers proposed by the Conservator for some districts appears to the Lieutenant-Governor to be desirable in the management of those forest tracts in the plains which are not reserved forests.

3. Although only 152 square miles have been added to the reserved forests during the year, considerable progress has been made towards gazetting other areas which it was decided to reserve. The greatest progress has been made in the Jhelum district, in which 179 square miles have been definitely set aside for reserves. The work in this district and the adjoining part of the Shahpur district will probably be completed during the current year, and steps have been taken towards commencing at an early date the important forest settlement work in the Rawalpindi district. Besides the areas actually gazetted, the necessary enquiries into forest rights have been nearly completed in considerable areas in several of the divisions, and fair progress has thus been made towards adding to the reserves 950 of the 1,478 square miles which in last year's report were mentioned as likely to be reserved during the next few years. Although perhaps the final proceeding of gazetting the reserves might have been somewhat expedited, it is better not to hurry this step; for before gazetting a forest as reserved under Section 19 of the Forest Act it is necessary to make sure that all claims have been properly heard and disposed of and to allow time for appeals from the decisions passed.

4. The Conservator notes the difficulties which have arisen owing to the location of new cantonments in the Hazara hills, and states that more land than was necessary has been included within their limits, and that the Forest De-

partment has not been given sufficient opportunity to offer an opinion as to the suitability of the arrangements. The Military Department have, in the course of a correspondence which has taken place on the subject, been asked to give the Civil Officers early intimation of intended locations, and endeavours will be made to avoid unnecessary sacrifice of forest interests to military arrangements.

5. The progress made in the important and laborious work of demarcating reserves is satisfactory, and the Conservator hopes nearly to complete this work during the current year. The comparative importance of getting forests which are to be completely "reserved" demarcated and gazetted before private rights have time to grow up was mentioned in last year's review, and the progress made in this direction makes the comparatively slow progress made in gazetting "Protected Forests" a matter of less regret.

6. The proposals submitted by the Conservator for the improvement of the prospects of forest officers have been forwarded for the consideration of the Government of India; but proposals of this nature require separate treatment, and should not be discussed in an annual report. A report is awaited from the Conservator on the re-organization of the subordinate establishment, which is a part of his general scheme for the re-distribution of forest work His Honor has suggested the selection of medical students to fill the posts of Native Probationer and Sub-Assistant Conservator, on the ground that the education received in the course of their medical training is one which leads to habits of observation and accuracy. The Lieutenant-Governor is of opinion that the education given at the Medical School is not a bad preparation for forest work, and observes that medical officers were in many cases selected for forest duties when the Department was first organized.

7. There has been an increase in all classes of offences against forest rules, but the number is still small. It is satisfactory to learn that forest officers have no longer reason to complain of want of care in the disposal of forest cases by magistrates.

8. The decrease in the forest area fired by incendiaries or by accident, which is little more than one-seventh of that reported last year, is satisfactory. The attention of Civil Officers has lately been again called to the necessity of increased efforts at prevention of forest fires, and the Lieutenant-Governor hopes that such efforts will be continued.

9. It is necessary in closing forest areas against grazing to arrange the closing so that as little hardship as possible may be caused to the people who have not been accustomed to such a restriction; and for this reason the Lieutenant-Governor has directed that proposals of this nature shall be referred to the Financial Commissioner in order that the Revenue officers of districts may be consulted regarding such arrangements.

10. Practically, no new plantations have been formed during the year. It is, no doubt, better to stock fully the areas already taken in hand for planting and sowing than to begin operations on larger areas. It is well too that the financial success of the operations should be made an object, and that more attention is being paid to the cultivation of the hardy indigenous trees of the plains which are likely to be grown with success. The extensive operations for planting in the Tabbi are worthy of notice, and the estimate of the cost of the Changa Manga forest is interesting, because founded on a definite experiment carefully conducted. The Conservator estimates its cost up to 1st April 1881 at 5 lakhs of rupees, and lays down a regular system for its future working by which he hopes to obtain an average annual net income of at least Rs. 20,000, which equals 4 per cent. on the estimated outlay. The estimate may be accepted as a sufficiently approximate calculation of the cost on which to base future calculations of the profit and loss of the plantation.

11. The number of trees felled during the year was much the same as last year, but consisted more of deodar and less of inferior pine. As anticipated in

last year's Review, much old timber has been floated down the Ravi during the year and brought to depôt. On the whole, there is an increase in timber brought to depôt of a lakh of cubic feet. About the same quantity was removed from depôt as in the previous year, but the prices obtained were lower. The Conservator is of opinion that the felling operations in the hill divisions cannot be kept up to the average of the past 10 years, and gives reason for expecting an annual average of 4 lakhs of cubic feet of deodar and one lakh of other timber,—total 5 lakhs only,—as against the past annual average of 7⅓ lakhs.

12. The arrangement made for supplying wood to Rawalpindi, which was much required, has worked well so far. The considerable decrease in firewood sold, of 9 lakhs of cubic feet, is due to reduced sales to the Punjab Northern State Railway. Its place has been taken partly by Bengal coal and partly by the Salt Range coal, of which nearly 30,000 cubic feet were sold during the year. The Lieutenant-Governor has already communicated to the Government of India his views as to the arrangements to be made for coal-mining in the Salt Range and the royalty to be charged.

13. More than double last year's quantity of deodar timber has been imported from Native States into British territory, chiefly from Kashmir by the Chenab. Altogether the quantity so imported equals about four times the quantity removed from British forests, and, taking both together, there is an increase of 6 lakhs of cubic feet of deodar, which has caused a fall in prices.

14. The financial results of the year's transactions, which show a net surplus of nearly two lakhs of rupees (the highest surplus of the last five years), are very satisfactory, especially considering the decrease in timber sold during the year and the low range of prices, and His Honor considers that the department is being worked economically. The only deficits are in the Leased Forests. Cuttings are now being made in Chamba which will bring up the receipts of that division, and the balance of timber from the Bashahr division at the depôts at the close of the year seems enough to convert the year's deficit into a surplus. Outstandings are considerably less than last year, but the arrears of grazing fees, to which the attention of District Officers was called in last year's review, are still high.

15. The Report is very full, and gives a clear summary of operations up to date under each head which will be useful for future reference. The organization and economical working of the Department are steadily improving, and fair progress is being made in demarcating forests and improving conservancy, while fellings seem to be carefully regulated with due regard to future needs. The thanks of the Lieutenant-Governor are due to Dr. Schlich, who has a thorough knowledge of his work and supervises it well.

ORDER.—Ordered, that this Review be printed and published in the *Punjab Gazette*; also that copies be furnished to Secretary to the Government of India, Home Department, to the Conservator of Forests, and to the Financial Commissioner.

By order of the Hon'ble the Lieutenant-Governor,

W. M. YOUNG,

Secretary to Government, Punjab.

Printed at the Punjab Government Civil Secretariat Press, Lahore —8-10-81 — 158

No. 1012F, dated Simla, the 7th November 1881.

From—A. MACKENZIE, Esq., C.S., Officiating Secretary to the Government of India, Home Department,

To—The Secretary to the Government of the Punjab.

I AM directed to acknowledge the receipt of the Annual Report of Forest Administration in the Punjab for the year 1880-81, and of His Honour the Lieutenant-Governor's orders thereon, No. 395 F., dated the 17th September last.

2. Chapter I of the Report, after giving a table exhibiting the forest areas at the disposal of Government, details the steps which have been taken with the view of connecting district officers more intimately with forest management. The Governor General in Council agrees with His Honour the Lieutenant-Governor that the measures taken are in the right direction.

It is noticed that, out of a total area of forest and waste lands at the disposal of Government, amounting to upwards of 18,000 square miles, only 4,794 square miles are under the management of the Forest Department, while it was stated in the Report for 1879-80 that the measures at present contemplated will secure an area of only about 2,300 square miles as reserved forests. This area can hardly be considered sufficient for the requirements of the province, and it is hoped that, under the organisation described in Chapter I of the Report and approved in paragraph 2 of the Resolution of the Government of the Punjab, it will be possible to set aside permanently, for the supply of wood and grass, a considerably larger area than that hitherto contemplated.

3. An area of 152 square miles has been added to the reserves during the year, while the settlement operations in 950 square miles have been so far advanced that a considerable increase of the reserved area may be expected in 1882-83.

The progress made in the permanent demarcation of the reserved areas is satisfactory. It is presumed that the boundary record prescribed in paragraph 83 of the Forest Department Code is taken in hand as soon as the necessary boundary-pillars of a reserve have been erected.

4. From paragraph 28 of the Report it would appear that the Military Department have taken up a new location for troops in the Dungagali Range of the Hazara forests. In paragraph 5 of the orders of the Government of India on the Report of 1878-79 it was asked whether some action is not required with the view of defining the limits beyond which land should not be appropriated in this range for other than forest purposes. This question, it would appear, has not yet been dealt with by the Government of the Punjab; and I am directed to enquire whether it cannot be taken up at an early date, in order to prevent the area available for forest purposes falling below what is required to supply timber and other forest produce, not only for the people in the vicinity and for the station of Murree, but for the military settlements themselves.

5. The proposals for the improvement of the prospects of forest officers in the Punjab have been received, and are now under the consideration of the Government of India. It is noticed with satisfaction that the reorganisation and improvement of the subordinate establishment is receiving due attention from His Honour the Lieutenant-Governor and the Conservator of Forests. Now that the Central Forest School at Dehra Dun has been brought into working order, it will be possible to train men for the important position of Forest Ranger, who, on their return from the School, will do much to raise the efficiency and general status of the subordinate staff.

6. The area of forest lands burnt during the year amounts to 22,073 acres, as against 142,599 acres in the previous year. The improvement in protection, indicated by these figures, is very satisfactory; and it is no doubt due to the judicious measures taken in this direction by His Honour the Lieutenant-Governor.

7. The area of plantations has been reduced from 20,328 to 17,127 acres, *by omitting from the return certain areas not actually stocked.* Where, as in the Punjab, operations are conducted on a large scale and under great climatic difficulties, it is scarcely to be expected that all steps taken will be attended with success. At the same time it is satisfactory to notice that so large an area as 17,127 acres has actually been brought under cultivation.

The description of the planting operations carried on at Changa Manga, which now extend over an area of upwards of 11,000 acres, has been read with much interest; and it is satisfactory to notice that this plantation is likely to prove a success from a financial point of view.

The temporary check to the planting operations in the Pabbi Reserve is much to be regretted; but it is hoped that, under the arrangements made by the Conservator of Forests, this important experiment will be brought to a successful issue.

The experience gained in the planting of deodar in Kalatop and in several of the Kulu forests will be of great assistance in devising schemes for planting operations on an extensive scale, wherever the natural reproduction of this most valuable tree is not sufficient to restock the areas cut over for the supply of the market.

8. It is noticed that an item of Rs. 2,13,014 has been excluded from Form No. 46, "Area of plantations." This sum, it is believed, represents the accumulated general cost of the former Plantation Division; and as the latter has now been broken up, the amount in question should have been distributed amongst the several plantations, instead of being omitted from the account. Under any circumstances, the alteration should have been explained in the Report.

9 The departmental timber operations have resulted in bringing to depôt 496,676 cubic feet of timber, which is about 100,000 cubic feet in excess of the corresponding figures for 1879-80, while the sales were about the same in both years. On the other hand, the outturn is considerably smaller than the average of the last ten years; and the Conservator points out that the past yield cannot be kept up in the immediate future. It would appear from these statements that the deodar forests in the Punjab have to some extent been worked beyond their capabilities. This may have been justifiable while extensive railway works were in progress; but now that the great trunk lines are approaching completion, the annual cuttings should be restricted to what the forests can yield permanently, and they should be specially arranged so as to stimulate reproduction. There is all the more reason for a reduction in cuttings, because the imports from Kashmir have largely increased of late years, so that the supply of timber seems to be more than sufficient for the demand, while prices have been considerably reduced in consequence.

10. The Governor General in Council has noticed with satisfaction that the Department is being worked economically, without sacrificing important interests. Although less timber has been sold during the year 1880-81 than in any of the preceding four years, the surplus of the year under review is the largest realised during the last five years. The departmental timber operations have yielded a surplus of Rs. 68,721; the net receipts from other sources amount to Rs 2,46,734; while a sum of Rs. 1,39,144 has been laid out on the formation, protection, and improvement of the forests, leaving a total net surplus of Rs. 1,76,311.

11. During the last few years a steady and decided improvement has been noticed in the forest management of the Punjab; and the thanks of the Governor General in Council are due to Sir Robert Egerton for the interest which he continues to take in this important branch of the administration.

G. C. B Press, Simla —No 701 II D 8 11 81—300.

Camp No. 272, dated Simla, 20th July 1881.

From—Dr. W. Schlich, Conservator of Forests, Punjab,

To—The Secretary to Government, Punjab.

I have the honor to submit herewith the Annual Administration Report of the Punjab Forest Department for the year 1880-81.

TABLE OF CONTENTS.

	Para.
CHAPTER I.—Introductory Remarks	1
CHAPTER II.—Area and Boundaries of Reserves	14
1. Area	14
2. Boundaries	25
CHAPTER III.—Areas and Boundaries of Protected Forests ..	42
CHAPTER IV.—Protection and Improvement	44
1. Establishments	44
2. Breaches of Forest rules	48
3. Forest fires	51
4. Grazing and Fencing	52
5. Sowing and Planting	64
6. Experiments	90
7. Roads, Bridges, &c.	93
8. Buildings, &c.	95
CHAPTER V.—Yield and Working	96
1. Departmental operations	96
2. Material removed from the forests by purchasers ...	103
3. Free grants of forest material	106
4. Summary of material removed from the forests ...	107
5. Foreign timber imported into British territory ...	108
CHAPTER VI.—Financial Results	111

Statements exhibiting the annual accounts.

Form No. 45.—Area of reserved forests.
" " 45.— Do. of protected forests.
" " 45.— Do. of unreserved forests.
" " 46.— Do. of plantations.
" " 48.—Prosecutions for breaches of Forest rules.
" " 49.—Annual summary of revenue and expenditure.
" " 50.—Account current.
" " 51.—Statement of outstandings and liabilities on account of contractors and disbursers.
" " 52.—Statement of outstandings on account of revenue.
" " 53.—Statement of trees felled departmentally.
" " 54.—Statement of logs, sleepers and scantlings cut.
" " 55.—Statement of timber brought to depôt.
" " 56.—Account of timber and other produce.
" " 60.—Abstract showing the value of timber and other forest produce.
Appendix A.—Statement of forest produce removed by purchasers.

PROGRESS REPORT
OF
FOREST ADMINISTRATION IN THE PUNJAB
For the Year 1880-81.

By W. SCHLICH, Ph. D.,
Conservator of Forests.

CHAPTER I.—INTRODUCTORY REMARKS.

In the report for the year 1879-80, the subject of bringing Forest Officers into closer connection with the Civil Officers than has hitherto been the case was touched upon, and it was hoped that a final conclusion regarding the future arrangements would be arrived at before the close of the year 1880-81. On going into the matter, however, it was found that the difficulties to be overcome were somewhat greater than was supposed at first sight. The main obstacle consists of the uneven distribution of the forest area, which rendered it necessary that the forest charges should extend over several Deputy Commissionerships, and the first effort was, therefore, to re-arrange the existing forest divisions. The number of the latter amounted, at the close of last year, to 9, and during the year under review it was increased to 11. To complete the proposed arrangement a considerable further increase will have to take place, and in order to effect this, the existing staff of officers has to be considered. The total number of Gazetted Officers sanctioned for the Punjab amounts to 22, but for some years past the existing staff was considerably below that sanctioned, and consequently the formation of new divisions was seriously interfered with. Now, however, the full staff has been obtained, and the intended organization can be advanced another step.

2. The subjoined table exhibits the forest areas in the Punjab at the disposal of Government:—

Name of District.	Forest Area			Average Annual Revenue		Remarks.
	Managed by the Forest Department.	Managed by the Civil Officers.	Total.	Of the areas under the Forest Department	Of the areas under the Civil Officers.	
	Square miles			Rs.	Rs.	
Delhi	..	2	2	..	4,452	
Karnál	...	3	3	..	?	Not known
Hissar	...	* 70	70	..	2,030	* 67 square miles made over to Cattle farm.
Rohtak	.	8	8	..	2,834	
Umballa	50	5	55	..	277	
Ludhiána	1		1	..	..	
Jullundur	1	2	3	..	1,934	
Hoshiarpur	91	57	148	..	5,418	
Kángra	493	248	741	..	3,286	
Amritsar	1	...	1	..	.	
Gurdáspur	22	39	61	..	550	
Siálkot	...	7	7	..	392	
Lahore	356	31	387	..	6,000	Approximately.
Gujránwála	235	11	246	..	2,900	
Rawalpindi	649	150	799	..	5,655	
Jhelum	460	68	528	..	?	Not available.
Gujrát	85	..	85	..	.	
Shahpur	442	809	1,251	..	34,750	
Mooltan	152	2,724	2,876	..	1,18,488	
Jhang	177	3,288	3,425	..	77,554	
Montgomery	861	2,640	3,501	..	89,526	
Muzaffargarh	89	403	492	..	12,208	
Dera Ismail Khan	...	1,245	1,245	..	12,183	
Dera Ghází Khan	29	255	284	..	23,827	
Bannu	...	5	5	..	1,581	
Peshawar	1	..	1	..	...	
Hazára	236	1,204	1,440	..	?	Not known, but very small.
Total British Territory	4,394	13,274	17,668	4,37,310	4,00,800	
Chamba leased Forests	231	.	231	1,12,952	.	
Bashahr " "	169	.	169	61,121		
Total leased Forests	400		400	1,74,073		
Grand Total	4,794	13,274	18,068	6,11,383	4,00,800	

The data given are not supposed to be absolutely correct, but they are as near the truth as the figures at disposal permitted, and, for the purpose now under discussion, they may be considered to represent the actual state of affairs.

3. It will be observed that out of a total forest area of 18,068 square miles, only 4,794 are at present managed by the officers of the Forest Department, while 13,274 square miles are under the administration of the Civil Officers. In some districts the areas of the latter class are insignificant, as in Delhi, Karnál, Rohtak, Umballa, Jullundur, Siálkot, Gujránwála and Bannu, and nothing need be said about them. In Hissar 70 square miles are shown, but of this area 67 square miles have been made over to the cattle farm, so that only 3 square miles remain available. The question has been considered whether the latter area should be planted with táli, and if it should be decided to do so, special arrangements would have to be made to assist the Deputy Commissioner in the work, the area being too small to post an officer to the district.

4. The districts of Hoshiárpur and Kángra constitute the present Beas forest division. This is, no doubt, too large an extent for one division, and arrangements will have to be made to divide it into two charges according to the limits of the districts. The Hoshiárpur District comprises a forest area of 148 square miles, of which 91 are under the Forest Department and 57 under the Deputy Commissioner. The charge of both, together with the work connected with the Hoshiárpur Chôs, will justify a separate trained Forest Officer being posted to this district.

5. In Gurdáspur we have 61 square miles of forest land, which is, with the exception of 280 acres, situated in Shahpur Kandi. The forests in question are the joint property of Government and the Zemindárs, and measures are now in progress to secure an efficient management for the more important parts. The areas thus selected will be in charge of the Forest Officer who has at the same time the control of the timber operations on the river Ravi.

6. Against Lahore 31 square miles are entered as in charge of the Deputy Commissioner. This area consists of the wooded parts of rakhs, which are intersected by cultivation, and, with rare exceptions, they will have to remain in charge of the Deputy Commissioner and be kept available for extension of cultivation. There is a separate Forest Officer for the Lahore District.

7. In Rawalpindi the Forest Officer is already to some extent subordinate to the Deputy Commissioner, and proposals are about to be submitted to Government to transfer the greater part of the area under the Deputy Commissioner to the Forest Department.

8. An area of 68 square miles is shown as under the charge of the Deputy Commissioner of Jhelum. This is chiefly composed of areas either cultivated, or so much intersected by cultivation that they have practically ceased to be forest lands.

9. The districts of Shahpur, Mooltan, Jhang, Montgomery, Muzaffargarh, Dera Ismail Khan and Dera Gházi Khan contain large areas of rakh lands, which are partly under the Forest Department and partly under the Deputy Commissioners. The totals for these 7 districts stand as follows :—

Area under the Forest Department.	Area under the Deputy Commissioners.	Total area.
1,710	11,364	13,074

These areas are required to provide fuel for Railways and Steamers, besides local requirements, and to serve as grazing grounds for the large herds of cattle which are found in these districts; hence it is necessary to treat these forests as combined fuel and grazing lands. The Conservator is of opinion that each of these 7 districts should at an early date be constituted a separate forest charge, the divisional forest officer being subordinate to the Deputy Commissioner, while the Conservator of Forests acts as inspecting and consulting officer, similar to the systems prevailing in Bombay and in the Central Provinces.

10 In Hazára 236 square miles are under the Forest Department and 1,204 under the Civil Officers, while the Forest Officer is to some extent subordinate to the Deputy Commissioner. Of all trees cut in the areas under the Forest Department a certain price has to be paid to the adjoining Zemindárs, while Government receives similar rates on account of the trees sold from the areas under the Deputy Commissioner. It is difficult to decide at this moment what the final arrangement in Hazára will be, but as a separate Forest Officer has already been set aside for this district, the question need not be further discussed here.

11. To recapitulate then, there should ultimately be the following divisional forest charges in the Punjab, beginning in the North:—

		Square miles.
1.	Hazára	forest area = 1,440
2.	Rawalpindi (including Pesháwar)	„ „ = 800
3.	Jhelum (including the Jhelum river)	„ „ = 528
4.	Gujrat	„ „ = 85
5.	Shahpur	„ „ = 1,251
6.	Dera Ismail Khan (including Bannu)	„ „ = 1,245
7.	Dera Ghází Khan	„ „ = 289
8.	Muzaffargarh	„ „ = 492
9.	Mooltan	„ „ = 2,876
10.	Jhang	„ „ = 3,425
11.	Gujránwála (including Siálkot and the Chenab river)	„ „ = 253
12.	Montgomery	„ „ = 3,501
13.	Lahore	„ „ = 387
14.	Gurdáspur (including Amritsar and the Ravi river)...	„ „ = 65
15.	Kángra (including the Beas river)	„ „ = 741
16.	Hoshiárpur	„ „ = 148
17.	Phillour (comprising the districts from Delhi to Jullundur, and the Sutlej river)	„ „ = 142
18.	Chamba	„ „ = 231
19.	Bashahr	„ „ = 169
	Total ...	18,068

12. To constitute these charges at once is not possible, because the existing staff is not sufficient; hence we must work up gradually towards the final arrangements. At present the following charges exist:—

1. Hazára Division as above.
2. Rawalpindi „ „
3. Jhelum „ „ but including part of the Shahpur forests.
4. Gujránwála Division, including Gujránwála, Gujrat and part of the Shahpur and Jhang forests.
5. Mooltan Division, including Mooltan, Montgomery, Muzaffargarh and Dera Ghází Khan.
6. Lahore Division, as above, but including Amritsar.
7. Beas „ including Kángra and Hoshiárpur,
8. Phillour „ as above.
9. Pangi „ comprising part of Chamba.
10. Ravi „ comprising part of Chamba, and Gurdáspur.
11. Bashahr „ as above.

It will be observed that only 4 divisions (1, Hazára; 2, Rawalpindi; 3, Phillour; and 4, Bashahr) are constituted as ultimately contemplated. In three of these the Forest Officer has been brought into close connection with the Deputy Commissioner, while the Phillour Division extends over a number of Districts, in each of which only small forest areas are available. The formation of the following ultimate charges is now in contemplation:—

5. Jhelum.	7. Montgomery.	9. Kángra.
6. Shahpur.	8. Lahore.	10. Hoshiárpur.

As a temporary measure the following will be joined :—

11. Gujrat, Gujránwála and Jhang.
12. Mooltan, Dera Ghází Khan and Muzaffargarh.
13. Chamba and Gurdáspur.

While Dera Ismail Khan must stand over for the present.

Preliminary arrangements in the above direction have been made during the year under review, and the necessary formal proposals will be submitted to Government at an early date.

13. The areas under the immediate charge of the Forest Department are distributed in the following manner :—

Divisions.	Reserved forests.	Protected forests.	Unreserved forests.	Total forest area.
	Square miles.			
Hazára	236	...	...	236
Rawalpindi	104	171	375	650
Jhelum	...	...	902	902
Gujránwála	45	140	272	457
Pangi	57	...	...	57
Ravi	158	...	37	195
Lahore	38	...	321	359
Mooltan	108	...	1,023	1,131
Beas	60	...	526	586
Bashahr	135	...	34	169
Phillour	2	...	50	52
Total	943	311	3,540	4,794

The reserved forests have been constituted under Chapter II of the Indian Forest Act, or in conformity with the leases entered into with the Rájahs of Bashahr and Chamba, while the protected forests comprise the areas gazetted under Chapter IV of the Forest Act.

CHAPTER II.—AREA AND BOUNDARIES OF RESERVES.

1.—Area.

14. The changes which have taken place in the areas of reserved forests during the year 1880-81 are exhibited in form 45 appended to this report, of which the following is an abstract.—

Divisions.	Area on 1st April 1880	Added during the year	Total on 31st March 1881.
	Square miles.		
Hazára	236	...	236
Rawalpindi	104	...	104
Gujránwála	45	...	45
Pangi	57	...	57
Ravi	158	..	158
Lahore	38	..	38
Mooltan	53	55	108
Beas	60	..	60
Bashahr	38	97	135
Phillour	2	...	2
Total ...	791	152	943.

In comparing the opening column of this statement with the closing column of that in paragraph 9 of last year's report, a difference of 4 square miles will be noticed. This is due to corrections made in the area of the Pangi reserves, which were given as 61 square miles, while they in reality comprise only 57 square miles. The reserves are classified thus :—

	Square miles.
Upper Hill forests (deodar, &c.)	536
Lower Hill forests (chil, &c.)	110
Plains forests, rakhs (sanatha, jhand, &c.)	297
Total	943

15. In paragraph 21 of last year's report it was said that during the next year or two an increase of about 1,478 square miles might be expected. Of this only 152 square miles have actually become reserves during the year under review, and although this result is somewhat disappointing, still the progress made is not so bad as it would appear at first sight, great as the various delays experienced may be. The following remarks will explain the present position.

16. *Rawalpindi Division.*—A notification under Section 4 of the Forest Act was issued during the year, giving notice that it is intended to reserve 12 blocks of forest in the Murree Tahsíl, and appointing Mr. R. G. Thomson, Forest Settlement Officer The actual settlement work is to commence in September 1881, and it will, it is hoped, be carried through without interruption. An additional notification under Section 4 will be submitted almost immediately.

17 *Jhelum Division.*—Orders have been passed regarding the forest lands in the Jhelum, Chakwal and Talagang Tahsíls. The following areas have been definitely set aside for reserves :—

In the Jhelum Tahsíl	... 117	square miles.
„ Chakwal „	... 23	„
„ Talagang „	... 39	„
Total	179	„

The final notification of these areas as reserves is now a mere matter of form. Regarding an area of 27 square miles in Chakwal and Talagang Tahsíls, a further report has been called for by Government. No orders have as yet been passed on the areas in Tahsíl Pind Dádan Khan, but it is expected that final proposals regarding them will be submitted to Government early next cold weather.

18. *Gujránwála Division.*—The settlement of 32 square miles in Gujrat has practically been completed, but owing to the Financial Commissioner having called for some further settlement records, no orders have as yet been passed by Government. The Conservator trusts that no further delay will occur.

In the Gujránwála District 92 square miles are under settlement. Orders have been passed by Government, and as soon as the usual time allowed for appeals has elapsed, they will be gazetted as reserves.

19. *Ravi Division.*—It has been decided during the year to treat the Shahpur Kandi forests under Section 79 and Chapter II of the Forest Act. Accordingly two joint Forest Settlement Officers were appointed, who, however, did not quite complete the work by the end of the official year. It is expected that this settlement will be brought to a close in November next. The area in question amounts to about 21 square miles.

The demarcation of reserves in Chamba was recommenced in April 1880, but unfortunately the officer in charge was killed by a bear in July 1880, when the work came to a stand still, for want of another officer, until April 1881. Arrangements have now been made to complete the demarcation, if practicable, by November next. It is impossible to give at present the total area of reserves which are likely to be obtained in Chamba.

20. *Lahore Division.*—Settlement operations in the Lahore District have been delayed, as it was necessary to enquire in the first instance into the state of cultivation in the rakhs. This has been done during the past cold weather by a special Civil Officer, and as soon as his report has been received, the Conservator will submit his proposals regarding the areas to be reserved in this division.

21. *Mooltan Division.*—An area of 55 square miles, situated in the Mailsi and Lodhrán Tahsíls, has been gazetted during the year under Section 19 of the Forest Act.

The settlement of 93 square miles in Montgomery has been completed, and the final orders of Government are now awaited. As regards the proposed reserves in Muzaffargarh and Dera Gházi Khan, it has been decided to postpone action until the Conservator has visited these districts during the next cold weather.

22. *Beas Division.*—By a notification dated the 8th July 1880, 62 blocks of forest in Kulu, comprising an area of 170 square miles, have been gazetted under Section 4 of the Forest Act, and a supplementary list of 27 blocks, comprising an area of about 50 square miles, was similarly published in April 1881. Altogether 220 square miles of forests in Kulu are now under settlement, and it is expected that the greater part of the area, if not the whole, will be finally gazetted under Section 19 before the close of the year 1881-82.

In the Kángra Tahsíl, 80 blocks, comprising 160 square miles, have been selected for reserves and demarcated in a preliminary manner, with the view of their being gazetted under Section 79 and Chapter II of the Forest Act, these areas being the joint property of Government and the Zemindárs.

23. *Bashahr Division.*—In consequence of a detailed examination by the Divisional Officer, 97 square miles of leased forests have been added to the reserves, thus bringing the total area up to 135 square miles.

24. To sum up, it will be seen that the settlement of the following areas has been completed or considerably advanced during the year under review :—

					Square miles.
Jhelum	Division	...	...	...	= 179
Gujránwála	„	...	...	...	= 124
Ravi	„	...	...	...	= 22
Mooltan	„	...	...	...	= 148
Beas	„	...	...	...	= 380
Bashahr	„	...	...	...	= 97
			Total	...	= 950

so that on the whole fair progress has been made, although the final procedure of gazetting the areas might have been somewhat more expedited.

2.—Boundaries.

25. As it is of the utmost importance to put the boundaries of all reserves into proper order, and then to keep them so, it will be necessary to record at this stage of forest management in the Punjab what has been done in this direction.

26. *Hazára Division.*—The reserves in the Hazára Division have been divided into four ranges—

				Square miles.
Dungagulli	...	...	area	= 63
Kaghan	...	...	„	= 90
Siran	...	...	„	= 33
Khánpur	...	...	„	= 50
		Total		= 236

All these areas were demarcated when the settlement was made some ten years ago, but owing to the boundary-marks being of a temporary nature it was

found about two years ago that many of them had disappeared. In the Dungagulli range particularly, it may be said that not a single pillar remained. Under these circumstances it was determined to re-demarcate these forests with permanent masonry pillars, with the assistance of Patwáris. The work was commenced two years ago and continued in the year under review, so that it stood as follows on the 31st March 1881 :—

DUNGAGULLI RANGE.

Demarcated up to 31st March 1880, length of boundary	= 7¾	miles,	number of pillars	316
" during 1880-81 " "	= 34	"	" "	1,241
Total demarcated	= 41¾	"	" "	1,557
Balance remaining to be demarcated	= 22¼			
Grand total of boundary	= 64	miles.		

27. The range in question is peculiarly situated. It occupies the upper part of a succession of ridges, starting near Murree and running in a northerly direction. The highest elevation is about 10,000 feet, and many places are considered suitable for sanitaria. The consequence is, that 3 Civil stations—Dungagulli, Natiagulli and Thandiáni—and a number of Military stations have been established, so that the area, which was originally taken out of the adjoining Guzaras on the plea of its being required for strict forest conservancy, has been considerably cut up by these numerous stations.

28. During the year under review, demarcation has extended not only over about half the exterior boundaries, but the 3 Civil stations have also been permanently demarcated by the erection of 57 pillars. In addition a Military Committee met, at which the Forest Officer attended without having a vote, and demarcated in a preliminary manner the areas chosen for the several cantonments. When the boundaries thus selected have been finally approved of, it is proposed to erect permanent pillars in the place of the present temporary structures. The areas thus included in the cantonments are not yet exactly known, but they are very extensive, and in some cases they contain far more land than can possibly be required for Military purposes. In spite of this, a new cantonment was established, since the close of the year, outside the areas chosen. This was accomplished before any information could reach the Conservator. Under these circumstances it is not unlikely that, unless the indiscriminate establishment of new stations is prevented, there will soon be a deficiency of forest produce required for the troops stationed in these hills, as the forests in the adjoining Guzaras have almost completely disappeared. Besides, the Zemindárs and Gujars are clamouring to be allowed to graze their cattle in the forests, and it has only been with great difficulty that they have been kept out during the past year.

29. In the Khánpur range 106 boundary-pillars were found to be missing, of which 20 have been re-established during the year, while the rest will be put up during the next cold season. Nothing has as yet been done in Kaghan and Siran, but these ranges will be taken in hand as soon as Dungagulli has been completed, which it is expected will be the case in October 1881.

30. The expenditure in the Dungagulli range amounts to Rs 3-13-10 per pillar, or about Rs. 115 per mile of boundary. This high expenditure is due to the fact that each mile contains on an average 37 angles, which shows that the boundary was not very judiciously chosen in the first instance. There was no necessity, in laying down the boundary at settlement, to demarcate out every little corner, and it would have been much better to choose longer lines for boundaries, even if a few more acres of land had been thrown out of the reserves into the Guzara lands.

31. *Rawalpindi Division.*—The following table shows the state in which demarcation now is in this division :—

Names of Reserves.	Areas of Reserves in square miles.	Demarcated					
		Up to 31st March 1880.		During 1880-81.		Total.	
		No. of Pillars.	Length in Miles.	No. of Pillars.	Length in Miles.	No. of Pillars.	Length in Miles.
Márgalla	38	664	86	287	38	951	124
Baingalla	1	} 31	4	92	15	123	19
Maira	2						
Tamaira	7	...	...	146	26	146	26
Kherimar	6	189	20	...	...	189	20
Kawágarh	7	209	21	...	...	209	21
Khairi Murát ...	29	286	44	...	...	286	44
Kauliál	2	55	8	...	...	55	8
Gujar Khán, Bhagam ...	12	...	...	131	30	131	30
Total ...	104	1,434	183	656	109	2,090	292

The boundary-marks are all permanent masonry-pillars. The average number of pillars per mile comes to 7, and the total cost per mile to about Rs. 17. This compares most favorably with the adjoining Hazára Division, where 37 pillars were required for each mile of boundary. Although more pillars are required in the higher hills than in the lower hills, still there was no real necessity for so large a difference as 7 in one case and 37 in the other.

Practically, the demarcation of the reserves in Rawalpindi has been completed, though there are still a few disputed points to be finally settled.

32. *Jhelum Division.*—Although no reserves have as yet been actually gazetted in this division, still a good deal of demarcation has been done, so that the work will be very much simplified after the notification of the reserves has taken place. In the Jhelum Tahsíl the Forest Settlement Officer has erected boundary-marks, wherever changes in the original rakh boundaries became necessary.

In Bela Pira Ghaib 11 permanent masonry pillars were erected during the year along the boundary between the Forest Department land and that assigned to the Cavalry stationed at Jhelum.

The demarcation of the rakhs in the Bhera Tahsíl, Shahpur District, was resumed in February 1881, no Patwáris having been available in the early part of the cold weather in consequence of the Census operations.

33. *Gujránwála Division.*—All the reserves were demarcated before the year under review, the islands in the Chenab by mud pillars and the other reserves by permanent masonry pillars, the details being as follows :—

Names of Reserves.	Demarcated before 1880-81.		
	Area in square miles.	No. of pillars.	Length in miles.
Gujrat Rakhs	2	127	12
Islands in Chenab	2	188	...
Pabbi	39	205	60
Gujránwála Rakhs	2	8	4
Total ...	45	528	76

The greater part of the boundary of the proposed reserves has been demarcated, which work will be shown in detail when the areas have been gazetted under Section 19 of the Forest Act.

34. *Pangi Division.*—During the year 144 boundary-pillars, constructed of loose stones 6′ × 6′ × 3′ with a pole in the centre, have been erected, at a cost of Re. 1-8-0 per pillar. No further details have been supplied, but it is believed that the demarcation has been completed.

35. *Ravi Division.*—The information regarding this division is not as detailed as could be desired. It appears that the following work has been done :—

Names of Reserves.	Areas of Reserves.	Demarcated					
		Up to 31st March 1880.		During 1880-81.		Total.	
		No. of Pillars.	Length in Miles.	No. of Pillars.	Length in Miles.	No. of Pillars.	Length in Miles.
Kalatop	4	71	13	...	...	71	13
Kainthli	1	31	8	...	...	31	8
Bakloh	2	...	...	...	...	...	...
Bani Khet	1	...	...	...	...	...	...
Ravi, Suel and Tributaries	150	1,796	...	783	...	2,579	...
Total ...	158	1,898		783	...	2,681	...

The Kalatop and Kainthli reserves are demarcated by permanent masonry pillars. The reserves on the Ravi and Suel have been marked off by dry stone pillars with a stake in the middle. No information has been given regarding the length of boundary remaining to be demarcated. A large demarcating party has been at work since April 1881, and it is hoped that the work will be completed by next autumn.

36. *Lahore Division.*—In this division the work stands thus—

Names of Reserves.	Areas of Reserves.	Demarcated			Remarks.
		Up to 31st March 1880.	During 1880-81	Total.	
		Miles of boundary.	Miles of boundary	Miles of boundary	
Chánga Mánga ...	28	37	...	37	By masonry pillars at important points and pottery pillars at others.
Shahdara	2	11	...	11	Masonry pillars at important points, and ditches between.
Jhoke	4	14	...	14	Masonry pillars at principal points and mud pillars at others.
Sadhanwáli	1	9	...	9	Do. do.
Mozung		1	...	1	Wire fence.
Nag	3	4	...	4	Masonry pillars at principal points and by boundary trenches.
Serai Amánat Khan ...		...	...	...	Only mud pillars, hence returned as not demarcated.
Bahoura		...	...	...	Do. do.
Total ...	38	76	...	76	

Only Serai Amánat Khan and Bahouru have to be demarcated, which will be done during the coming cold season. All the other reserves have been completed.

37. *Mooltan Division.*—The subjoined table gives the state of the demarcation at the close of the year :—

Names of Reserves.	Areas of Reserves.	Demarcated			Balance remaining to be demarcated.	Remarks.
		Up to 31st March 1880.	During 1880-81.	Total.		
	Square miles.	Miles.	Miles.	Miles.	Miles.	
Serai Sidhu ...	53	87	...	87	...	By interrupted trenches and 20 feet lines.
Mailsi	45	30	3	33	...	20 feet lines.
Lodhrán	10	29	16	45	...	By interrupted trenches, or 20 feet lines, or both.

In addition, by far the greater part of the proposed reserves in Montgomery has been demarcated, the details of which will be given in next year's report.

38. *Beas Division.*—The subjoined table shows the state of the demarcation :—

Names of Reserves.	Areas of Reserves.	Demarcated up to 31st March 1881.		Nature of demarcation.
		No. of pillars.	Miles in length.	
Punjal	3	772	119	
Lohára	7			
Darni	5			
Karnpur ...	6	753	46	
Bindraban ...	4			
Gagriwál ...	1	46	3	Wooden posts.
Bágarián Mulanwál	1	45	6	Do.
Dera	17	1,789	141	
Núrpur	16	1,058	72	
Total ...	60	4,463	387	

All the reserves were demarcated some time ago. During the year 1880-81 the demarcation of blocks which it is intended to reserve has been continued, and the progress of the work will be seen from the subjoined figures :—

In Kulu.		No. of Pillars.	Length in miles.
Demarcated up to 31st March 1880	...	2,210	159
Ditto in 1880-81	...	1,045	67
Total	...	3,255	226
Balance remaining to be demarcated, about	...	...	350
GRAND TOTAL	...	...	576 miles.

In Kángra Tahsíl an area of 160 square miles was marked off by heaps of stones plastered over with mud.

The pillars round the Kángra and Hoshiárpur reserves consist either of heaps of stones or of wooden posts. These may answer the purpose at the outset, but they must gradually be replaced by permanent masonry pillars at all important points.

39. *Bashahr Division.*—Certain areas have from time to time been demarcated in this division for the purpose of protecting them against cattle. These demarcations refer to an area of 44 square miles, out of a total of 135 square miles of reserves. On the whole, however, no regular demarcation of a permanent nature has as yet been undertaken. This will probably have to be started now, wherever cultivation has been extended, of late, or where it is likely to be extended, so as to secure the permanent control of all valuable deodar areas.

40. *Phillour Division.*—The boundaries of all reserves have been demarcated by masonry pillars or trenches, where they are not bounded by permanent roads.

The Kalesar forest, which has not as yet been declared a reserve, is demarcated on three sides, the fourth, representing a length of about 10 miles, being in dispute. The outer boundary of the leased area at Subáthu is under dispute, but it is hoped that it will soon be settled now. The inner boundary is now being laid down.

41. It will be useful to add here an abstract of the demarcation of the areas actually gazetted as reserves—

NAMES OF DIVISIONS.	AREA DEMARCATED			Area remaining to be demarcated.	Total area.
	Up to 31st March 1880.	During 1880-81.	Total.		
	Square miles.				
Hazára ...	50	40	90	146	236
Rawalpindi ...	70	34	104	...	104
Gujránwála ...	45	...	45	...	45
Pangi ...	...	57	57	...	57
Ravi ...	58	50	108	50	158
Lahore ...	36	...	36	2	38
Mooltan ...	99	9	108	...	108
Beas ...	60	...	60	...	60
Bashahr ...	3	41	44	91	135
Phillour ...	2	...	2	...	2
TOTAL ...	423	231	654	289	943

These data show fair progress during the year under review, and the Conservator hopes to complete the work of demarcating the gazetted reserves during the year

1881-82, with the exception, perhaps, of a small area in Hazára. It will no doubt be observed from the data given under this section that demarcation is an exceedingly laborious proceeding, which occupies much time and perseverance on the part of the forest staff.

CHAPTER III.—PROTECTED FORESTS.

1.—Areas.

42. So far only two blocks of forest have been declared "protected forests," under Chapter IV of the Indian Forest Act. These are—

1. The Kala Chitta forest in Rawalpindi	... area	= 171	square miles.
2. The Gujránwála rakhs	... "	= 140	" "
Total	... "	= 311	" "

Of these, the latter block has been added during the year under review. Besides the above, it is contemplated to gazette an area of 137 square miles in the Jhang District as protected forest, as soon as an enquiry into existing rights has been made. This is now being done, and it is expected that by the end of the current year the area will thus be brought up to 448 square miles.

2.—Boundaries.

43. The Kala Chitta protected forest has been completely demarcated by larger mud and stone pillars, which are periodically white-washed, so as to render them more conspicuous.

Of the boundaries of the Gujránwála protected forest, a length of 38½ miles has been demarcated by pillars, cleared lines and trenches, while 41 miles remain to be done.

Of the Jhang forest, 29 miles have been demarcated by pillars, cleared lines and trenches, and 31 miles have yet to be taken in hand.

CHAPTER IV.—PROTECTION AND IMPROVEMENT.

1.—Establishments.

44. No changes have been made in the sanctioned superior staff, which stands as follows :—

1 Conservator on	Rs.	1,400	per mensem.
3 Deputy Conservators, each on	"	700	" "
4 " " "	"	500	" "
10 Assistant Conservators, on pay ranging from Rs. 250 to		450	" "
4 Sub-Assistant Conservators each on	"	200	" "

or a total of 22 officers. As mentioned in last year's report, this staff has now been localized. Conservators and Sub-Assistants of European origin are as yet on one general list for the whole of the Bengal Presidency, and their promotion is regulated by the Government of India. On the other hand an Assistant Conservator 3rd grade can be promoted up to the rank of Deputy Conservator of the 1st grade by the Government of the Punjab, without previous reference to the Government of India.

45. Under these circumstances it became necessary to enquire what the prospects of Assistants and Deputies are. It was found—(1) that the maximum pay of a Deputy Conservator is considerably below that sanctioned for other branches of the public service, as for instance the pay of a 1st grade Superintendent of Police, or Executive Engineer, (2) that the prospects of the 1st grade Assistants now on the staff are very discouraging, there being 3 such officers with 12 years' service, the junior of which cannot hope to become a Deputy Conservator on Rs. 500 per month under 16 to 18 years' service, while officers of equal length of service in the Police and Department of Public Works are drawing considerably higher pay. To

obviate these serious drawbacks, the Conservator has submitted for the consideration of Government proposals calculated to ensure (1) a more speedy promotion to Deputy Conservator, by increasing the number of Deputies, and by correspondingly reducing the number of Assistants and Sub-Assistants, and (2) a higher rate of pay for Deputy Conservators than those now sanctioned. If these proposals should meet with the approval of Government, the forest service in the Punjab would be placed on a par, or nearly so, with other Departments of a similar standing.

46, The total monthly sum sanctioned for Subordinate Establishments amounts to Rs. 9,083. During the year under review, His Honor the Lieutenant Governor has delegated to the Conservator of Forests the power of entertaining, within the above limit, what establishment is required. The object of this delegation was to enable the Conservator to re-arrange the staff so as to provide for the requirements of the new divisions formed, and about to be formed, with the view of establishing a closer relation between Civil and Forest Officers. Good progress has been made in this direction, but, as already pointed out in Chapter I of this report, much remains yet to be done before that organization which will be finally required has been established.

47. During the year under review it has been decided to employ, as an experiment, Non-Commissioned Officers of the Native Army in the Forest Department. One man, Naik Jeymal Singh of the 26th Punjab Native Regiment and a native of the Punjab, has been so employed, but it is too early to speak of the results. Since the close of the year a second man has been taken over.

2.—Breaches of Forest Rules.

48. The prosecutions instituted during the year compare as follows with those of previous years :—

In 1878-79	...	...	...	= 685	prosecutions.
„ 1879-80	...	...	...	= 726	„
„ 1880-81	...	...	...	= 875	„

There has been, it will be observed, a steady increase of prosecutions during the last two years, which the Conservator believes to be due, not so much to an increase in offences, as to the fact that the protection of the forests is improving. This must temporarily be accompanied by an increase of prosecutions, but it will ultimately result in a considerable decrease of offences, if the efforts of the Department are gradually directed to their prevention, rather than to discovering committed offences to be followed by a prosecution.

49. The details of the prosecutions are exhibited in form 48 appended to this report, of which the subjoined table is an abstract:—

Division.	*Prosecutions.*	*Convictions.*
Hazára	136	56
Rawalpindi	193	112
Jhelum	75	55
Gujránwála	75	62
Pangi	1	1
Ravi	29	14
Lahore	32	24
Mooltan	77	63
Beas	178	147
Bashahr	58	27
Phillour	21	13
Total	875	574

During the last three years the average convictions were as follows :—

In 1878-79	...	...	...	66 per cent.
„ 1879-80	...	...	...	67 „
„ 1880-81	...	...	...	66 „

so that the proportion has been stationary.

50. In order to compare this year's figures with those of the previous year, the subjoined table is added :—

Nature of Offences.	Forest Offences		
	In 1879-80.	In 1880-81.	Increase.
1. Injury to forests by fire	103	105	2
2. Unauthorized felling or appropriation of wood and minor produce	349	389	40
3. Grazing without permission	201	272	71
4. Other offences	73	109	36
Total ...	726	875	149

These data show that the increase of prosecutions is distributed over the different classes of offences.

On the whole it may be safely said that Forest Officers have experienced much less trouble during the past, as compared with former years, in the execution of this part of their duty. The opinion of the Government of the Punjab as regards Forest offences having been made known during the year, Magistrates have generally bestowed that care on the cases which is required to dispose of them in a satisfactory manner. The Conservator feels confident that no further difficulties will arise in this respect.

3.—Forest Fires.

51. During the year 134 fires were reported as having taken place in the forests under the charge of this Department, which are distributed in this manner :—

Divisions.	No. of fires.	Estimated area over which the fires spread.
Hazára ...	30	2,113 acres.
Rawalpindi ...	46	15,925 ,,
Jhelum ...	...	...
Gujránwála ...	9	150 ,,
Pangi ...	1	15 ,,
Ravi ...	2	Insignificant.
Lahore ...	8	210 acres.
Mooltan ...	10	2,600 ,,
Beas ...	24	1,050 ,,
Bashahr ...	3	10 ,,
Phillour ...	1	...
Total ...	134 fires.	22,073 acres burnt.

These data compare as follows with those of the previous year :—

	Area burnt in acres.
In 1879-80	142,599
,, 1880-81	22,073

It will be observed that a great reduction in the area burnt has taken place during the last year, and it is to be hoped that a further reduction may be effected in 1881-82.

4.—Grazing and Fencing.

52. In the report for 1879-80 it was stated that the policy as regards grazing must be to "restrict protection against it to those areas where it is absolutely necessary, but in these success must be obtained." This principle has been acted on throughout the year, and the result is that only a small portion of the area under the charge of the Forest Department is actually closed against grazing, as will be observed from the following notes :—

53. *Hazára Division.*—Out of a total area of 236 square miles, about 110, equal to 42 per cent., are now closed against grazing, namely :—

The Khánpur range	...	...	...	50	square miles.
Part of Dungagulli	...	...	...	30	" "
Part of Khágan	...	...	...	30	" "
		Total	...	110	" "

The Khánpur range was lately transferred to the Hazára Division, and it has been closed against grazing for some time past. In the Khágan range all those forests in which cutting has of late taken place have been closed. The Dungagulli range comprises an area of 63 square miles, and it is closed against grazing to outsiders. There are, however, numerous Military and Civil stations in the range which require grazing, so that only about half, or 30 square miles, can be considered as actually closed against grazing. Fencing was confined to enclosing a small deodar plantation at Changlagulli, the length of the fence being 4,800 feet.

54. *Rawalpindi Division.*—The total area amounts to 650 square miles, of which the following were closed throughout the year :—

Kawágarh reserve	...	...	...	area	=	7
Kherimar "	...	...	...	"	=	6
Kauliál "	...	...	...	"	=	2
			Total		=	15

or 2 per cent. of the total area.

In addition to the above, an area of 69 square miles was closed for nine months in the year, but opened to grazing for three months, except to camels and goats, in consequence of a scarcity of grass outside the forests. During the year 6 miles of dry stone wall were constructed in Margalla, near the Murrée road, at a cost of Rs. 250 per mile.

55. *Jhelum Division.*—The following forests were closed during the year :—

(*a*) Closed entirely, 38 square miles, equal to 4 per cent. of the total area.

(*b*) Closed to camels, goats and sheep, but open to other cattle, 12 square miles.

(*c*) Closed to camels only, but open to all other cattle, 28 square miles.

The grand total of all areas either altogether or partially closed comes to 78 square miles, which is equal to 8 per cent. of the total area administered by the Forest Department. It will be observed that this is a very moderate proportion.

56. *Gujránwála Division.*—With the exception of Chichra, Thutta Fakirulla and part of the Pabbi, comprising altogether an area of about 6 square miles, no areas have been closed throughout the year. In the Gujránwála rakhs an area of 29 square miles was closed for nine months and opened to cows and buffaloes for three months. An area of 47 square miles in Gujrat was closed against camels, goats and sheep only.

57. *Pangi Division.*—None of the forests have been closed against grazing.

Ravi Division.— The only areas as yet closed against grazing are—

Part of Kalatop	...	...	area =	1,706	acres
" " Bakloh	...	...	" =	700	"
		Total	=	2,406	"

or about 4 square miles out of a total of 195 square miles. The above areas are fenced in.

58. *Lahore Division.*—The following areas were closed throughout the year :—

Part of Chánga Mánga		= 7 square miles.
Part of Kot Lakhpat	area = 6	" "
Mahmud Buti		
Mozung		
Jhoke		
Sadhanwáli		
Part of Baoli Lehna Singh		
Total	= 13	" "

This represents 4 per cent. of the total area. The subjoined areas were closed for nine months, and opened for three months, except to camels and goats : —

Shahdara and Jugián	= 11 square miles.	
Khanna Nepal		
Chandra		
Part of Kot Lakhpat		
Lakhowál		
Bhagour	= 27	" "
Rutoana		
Kanjriwála		
Bhagkia		
Madhodás		
Dobli	= 6	" "
Dhig		
Mundki		
But		
Total ...	= 44	square miles.

59. *Mooltan Division.*—Only a few blocks were closed throughout the year, the area of which forms an insignificant fraction of the total area. A number of forests were closed for part of the year, and from others camels and goats were kept out. On the whole, however, the sum total of the restrictions is very small. By far the greater portion of the area has been leased in the manner prescribed by the Financial Commissioner.

60. *Beas Division.*—The reserved forests, with a few exceptions, are closed against grazing, or an area of about 60 square miles, which is equal to 10 per cent. of the total forest area.

In addition to the above the areas (342 acres) mentioned in para. 55 of the report for 1879-80 are kept up as fenced and closed blocks.

61. *Bashahr Division.*—A number of blocks of limited extent have been fenced in, and these are closed against cattle, but the area thus treated is very small as compared with the total area. The rest of the forests are not closed against grazing. An additional length of 4,940 feet has been fenced during the year in the East and West Nachár forests.

62. *Phillour Division.*—Only the plantations in Jullundur, Ludhiána, Umballa and part of Subáthu, comprising an area of 2 square miles, are closed against grazing. All other areas are open.

63. The areas closed either altogether or for part of the year are managed departmentally, but the grazing in the other areas is, as a rule, sold in the manner prescribed by the Financial Commissioner. As the Government have called for a detailed report on the whole question, it will not be necessary to enter any further into the matter here.

5.—Sowing and Planting.

64. On reference to form 46 appended to this report, it will be observed that the large area of upwards of 20,000 acres has been operated upon since the Department has been established. On going into the subject it was found that some of the areas returned as planted were in reality not stocked, and these have, during the past year, been excluded from the area of plantations.

The following is an abstract of form 46 :—

Name of Division.	At commencement of year.	Added during the year.	Deducted during the year as unstocked.	Total area at end of the year.
	Area in acres.			
Hazára ...	66	1	...	67
Rawalpindi ...	65	...	65	...
Jhelum ...	493	14	182	325
Gujránwála ...	2,672	...	647	2,025
Ravi ...	174	...	...	174
Lahore ...	15,482	...	1,637	13,845
Beas ...	6	...	...	6
Bashahr ...	6	...	...	6
Phillour ..	1,364	...	685	679
Total ...	20,328	15	3,216	17,127

The above statement shows that 3,216 acres have been struck off, the details of which are as follows :—

Division.	Name of Plantation.	Area in acres.
Rawalpindi	Khairi Murát	65
Jhelum	Bela Saila	182
Gujránwála	Sadhoki	16
Do.	Chichra	55
Do.	Kikránwála	576
Lahore.	Shahdara and Jagian	511
Do.	Bagh Lehna Singh	641
Do.	Kot Lakhpat	485
Phillour	Subáthu	685
	Total ...	3,216

Of course, these plantations, having been failures, should never have been entered in the return, but this having been done, it was now necessary to take them out. Details regarding some of the blocks will be given further on.

It should be mentioned here, that, in addition to the above, about 1,500 acres at Chánga Mánga and about 1,000 acres at Pabbi are in reality not so well stocked as to justify their being included in form 46. However, the former is being stocked gradually with jhand and other indigenous trees, and at Pabbi the work has been re-commenced in a vigorous manner during the past year, so that the areas in question will soon be stocked. Under these circumstances it was not considered necessary to take them out of form 46 just at present.

65. The next point to be noted is, that with the exception of 15 acres, no extensions have been made during the year. From what has been stated above, it will be clear that there is a good deal of work to be done in completely stocking the extensive areas already operated upon, before further extensions are justified. By the time the present areas have been thoroughly consolidated, the staff will be set free from forest settlement and demarcation work, and then a fresh and vigorous start will be called for, with the view of further extensions of planting operations. In the meantime, information is being carefully collected, by means of experiments on a *small* scale, as to the best methods of planting and

sowing, so as to ensure a financial success of the undertakings. In particular, more notice is being taken of the hardy indigenous trees of the Punjab plains, rather than of exotic and doubtful species.

66. It now remains to notice the operations of the year in the several divisions.

Hazára Division.—Only experimental operations have as yet been carried on in this division. During the year a number of deodár seedlings, raised in a nursery, were planted out on a northern slope of the Changlagulli hill and fenced in, and these are doing well. If they succeed, it will be good policy to plant deodar on some of the blank areas in the Dungagulli range. In the same range 10,000 horse-chestnut seeds were planted out as an experiment. In Khánpur 6½ maunds of phulai, khair and sanatha seed were sown. It may be mentioned here that 700 seedlings of various kinds were given during the year to the Military authorities at Abbott-abad for roadside planting.

67. *Rawalpindi Division.*—Here the staff is as yet so much occupied with the selection and demarcation of reserves, besides the ordinary current fuel works, that the operations have not extended beyond the formation of nurseries, regarding which no further remarks are called for in this place.

68. *Jhelum Division.*—During the year 14 acres were added in Bela Pira Ghaib, these having been sown with táli, kíkar, phulai and bér; the results are fairly satisfactory.

69. *Gujránwála Division.*—In this division the operations in the Pabbi claim attention. Nine years ago some patches were sown and planted, chiefly with kíkar, but operations on a larger scale were only commenced in 1876-77 by operating on an area of 150 acres, which was extended to 1,450 acres in 1877-78. It appears that a fair start was made in the latter year by the officers attached to the division, but subsequently less zealous officers took charge, and on an inspection of the work by the Conservator in December last it was found that the works had been considerably neglected. The enclosures had been broken down for some time past, allowing ingress to cattle, and the dams in the ravines had been breached and not repaired. Still there is sufficient evidence that something substantial can be done in the manner originally proposed, and modified according to the experience since gained.

70. The first and foremost step to be taken was to locate a forest officer on the spot, and consequently the Railway bungalow in the Pabbi, which was taken over by this Department in a dilapidated condition, was at once put under repairs. An extra officer was attached to the Gujránwála Division, whose head-quarters are at Bunni, that is to say, in the middle of the area to be operated on. Since then the 1,299 dams constructed previously have been repaired, and 1,425 new ones constructed, so that the operations extend now over that part of the Pabbi which is bounded on the west by the Grand Trunk road and on the east by the Railway. All dams have been constantly kept in repair. In the silt beds formed behind the dams, and in holes prepared immediately above them, about 10 maunds of phulai seed have been sown. These seeds are expected to germinate during the present rains. To assist the dams in their action on the rain-water, trenches 18″ × 9″ were dug along the edges of the plateaux, thus reducing the rush of water down the ravines. The necessary fences are, as a matter of course, kept in thorough repair, so as to protect not only the dams and sowings, but also to encourage the springing up of natural seedlings.

Operations will now, it is hoped, be carried on steadily, but the Conservator wishes once more to draw attention to the necessity of keeping always a junior forest officer [Sub-Assistant or Probationer] at Bunni, if any real success is to be obtained. Changes take place so rapidly in India that such a point is likely to be overlooked, and hence it will be useful to mention the matter in the Annual Report.

71. *Pangi Division.*—A series of experiments of rearing deodar and walnut artificially has been made with varying success. The Conservator hopes to visit Pangi in September next, when he will be in a better position to judge of forest affairs in Pangi than he is at present able to do.

72. *Ravi Division.*—This division also will, it is expected, be visited by the Conservator in autumn next.

Kalatop.—During the year under review 13,392 seedlings of deodar and 77 of walnut were planted out into compartments 9, 12, 16 and 22. As far as the records show, it appears that the following plantings have been done in this forest since 1872-73 :—

Year.	Seedlings planted out.				Nos. of compartments in which planting took place.
	Deodar.	Other Pines.	Walnut.	Total.	
1872-73 ...	21,051	...	...	21,051	5, 6, 7 & 22
1873-74 ...	16,480	105	...	16,585	5, 16 & 22
1876-77 ...	40,551	...	...	40,551	3, 5, 8, 12, 14, 16, 20 & 22
1878-79 ...	3,483	...	2,316	5,799	12, 14, 16 & 22
1879-80 ...	2,480	...	543	3,023	4, 5, 14, 16 & 22
1880-81 ...	13,392	...	77	13,469	9, 12, 16 & 22
Total ...	97,437	105	2,936	100,478	

No records for the years 1874-75, 1875-76 and 1877-78 are available. It is reported that compartments 8, 12, 16 and 22, comprising an area of 412 acres, are now completely stocked, while compartments 3, 4, 5, 7, 9, 10, 11, 13, 14, 15, and 17 to 21, aggregating 1,294 acres of fenced forest, contain still some blanks. The remaining compartments 1, 2, 6, and 23 to 27, comprising 1,151 acres, cannot be closed against grazing. Thus we have—

			Acres.
Area fully stocked ...	...	=	412
„ very nearly stocked ...	...	=	1,294
„ open to grazing ...	...	=	1,151
	Total	=	2,857

The plantings of both deodar and walnut are described as very successful, the older deodar seedlings of 1872 being reported as from 10 to 12 feet high, while the walnuts planted out in 1879-80 are from 3 to 4 feet high. The nurseries have, during the past year, been re-sown with deodar and walnuts, to provide material for further planting, while the fences and roads have been kept in repair, and the creepers cut wherever necessary. Rhododendrons were removed from compartments 9 and 12.

73. At *Bakloh, Bassu* and *Dauri* no fresh planting was done during the year. The experiment of raising khair by sowing it in prepared patches in Bakloh has not succeeded. Probably the elevation is too great. The planting of "Eucalyptus" and Acacias will be noticed in the next section.

74. *Lahore Division.*—In *Shahdara* 24 acres were, as an experiment, planted with táli root cuttings, with partial success. 2,000 willow cuttings were supplied to the Executive Engineer, Punjab Northern State Railway.

In *Mahmud Buti* planting operations extended over 103 acres with varying success. 400 Catalpa plants were planted out into the forest, and these are doing fairly well. A nursery of 2 acres was sown with táli and bakain seed, which has germinated well. The seedlings will be ready for transplanting in 1882.

The soil in *Baoli Lehna Singh* having been found unsuited for planting, operations have, with the sanction of Government, been stopped.

75. As indicated in last year's report, an experiment was made to stock the blanks in *Kot Lakhpat* by sowing kikar, reru, jhand and bér seed on the banks of plough furrows, and also in the furrows, the idea being that the rain-water would collect in these deep furrows and thus afford the seedlings a chance of surviving the first hot season. The experiment, which extended over 125 acres, has, however, failed for two years consecutively. The seeds germinated fairly, but the seedlings succumbed during the hot weather. Under these circumstances the idea has been abandoned, and an experiment is now being made of irrigating land sown with jhand, bér and reru for two years; 80 acres are being thus treated. It is expected that irrigation may be discontinued when the seedlings have once taken root.

76. *Chánga Mánga.*—No extension has been made, and none is intended, the area planted being already larger than can be irrigated with the water at the disposal of the Department.

During the year under review the vacancies in compartments 95, 102, 104, 105 and 106, comprising an area of 252 acres, were filled up with táli transplants, besides smaller areas in other compartments. Nurseries, covering about 4 acres, were sown for further operations. 2,100 táli, mulberry and tun plants were supplied to the Deputy Commissioner of Montgomery, and 200 to the Sind, Punjab and Delhi Railway. The roads and watercourses were kept in repair.

77. As is well known, the supply of water from the Bâri Doáb Canal is not nearly sufficient for the requirements of the plantation. The Conservator, on enquiring into the matter, found that the chief drawback generally is the small number of days on which water is available, while on a limited number of days in the year considerable quantities of water go over the escape at the tail of the canal. In order to make the greatest possible use of such occasions, the Conservator resolved on enlarging the Gandian Rajbáha, which is the main inlet, so as to throw about double the quantity of water into the plantation, when it is available. This has been done at the moderate outlay of Rs. 555. The Rajbáha is reported to take down now a large quantity of water, in fact as much as can be distributed at one time. Unfortunately it is not laid out so well as might have been the case, the drawback of which is that it is liable to burst its bank in several places. However, if carefully watched, it should be possible to avoid such accidents.

78. The following table shows the areas watered in 1880-81 :—

Area watered once	=	5,445 acres
" " twice	=	1,865 "
Equal to an area of		7,310 acres watered once.

It is expected that the area watered in 1881-82 will be very much larger, now that the main Rajbáha has been enlarged. The water rent of the past year amounted to Rs. 10,161-3-0 for the area watered. It will be observed that each watering per acre comes to about Re. 1-6-0, which is very high. The matter has been laid before Government, and it is hoped that payment will in future be made "per watering," and that the rate for each watering will not be fixed higher than 12 annas per acre, including vantage rate.

79. Thinnings have been strictly confined to the removal of dead and fallen trees, and the coppicing of willows, where required. These operations extended chiefly over compartments 17 to 46. The material thus obtained amounted to 207,722 cubic feet stacked, which was sold at rates varying from Re. 1-6 to Rs. 2-2 per 100 cubic feet, while the cost of cutting and stacking it came to Re. 0-12 per 100 cubic feet.

80. The Conservator, when visiting Chánga Mánga for the first time in February 1880, found that considerable portions of the plantation showed signs of dying out, and the question arose what should be done. After examining the different parts thoroughly, he came to the conclusion that it would be very difficult,

if not impossible, to treat táli at Chánga Mánga as high forest, taking into consideration the insufficient supply of canal water, and that this tree must consequently be treated as "coppice." Instructions were then issued to test at once the coppicing power of táli in various ways, and an area of about 5 acres was cut over early in spring 1880 in a variety of manners, of which the following are the chief :—

1. The trees were cut flush with the ground.
2. Do. about 6" to 1' from the ground, and the stumps left unprotected.
3. Do. do. the stump covered with earth.
4. The stumps were taken out of the ground and only the side roots left, with the view of producing "root" shoots, instead of coppice shoots.
5. Standards were left in varying numbers, the remaining trees being cut in several different ways.

In the above instances part of the area was burnt over after cutting, and the other part was not burnt. On examining the area in November 1880, it was found that a sufficient time had not elapsed to arrive at a final conclusion, but it seemed clear that the methods mentioned under 1 and 4 seemed to promise best. It was further found that firing the ground after cutting seems to stimulate the coppicing and the sending up of root shoots.

81. Accordingly orders were issued for a further experiment on a larger scale. The system of "stubbing," or taking out of the stumps, yields, as a matter of course, a much larger quantity of saleable material per acre, and as the roots seem to send up shoots in large numbers, this system has been specially favored in the larger experiment. Compartment 1, one of the oldest in the plantation, was chosen for the experiment. Its area stands thus :—

	Acres.
Area occupied by nurseries and canal out-offices	... 3·32
Area stocked with táli forest	... 85·32
Total	... 88·64

The following is a short history of the compartment :—

In 1866 about 72 acres were trenched and sown with kíkar, táli and siris; táli did not germinate. During the winter of 1868 frost killed the kíkar plants down to the roots. In 1869 all blanks were re-sown, which was successful. In this year 8 acres were sown on ridges instead of in the trenches, which proved a success. The remaining area was planted with tallow trees, tan, &c., and along the watercourses with willow and farásh. Subsequently further repairs seem to have been made. In 1871-72, when the Chánga Mánga working plan was made, it was estimated that of the whole area about one-fourth was stocked in each of the four years 1867-68, 1868-69, 1869-70 and 1871-72, so that the age of the forest in 1880-81 was as follows :—

One-fourth	...	...	...	= 13 years.
"	...	...	...	= 12 "
"	...	...	...	= 11 "
"	...	...	...	= 9 "

hence the average age in 1880-81 would be a little above 11 years.

Kíkar and siris disappeared during the first years of the plantation in consequence of their being killed by frost, so that the result was in reality a forest of táli *(Dalbergia sissu)* with a small mixture of willow and farásh, along watercourses, and a few jhand and kíkar here and there. In 1871 the compartment was thinned for the first time, when 469 young trees per acre were

taken out, yielding 50 maunds per acre, or 4,000 maunds in all. Including this, the following thinnings were made up to 1880:—

	Saleable material—cubic feet.
In 1870-71	16,000
1871-72	942
1873-74	4,240
1875-76	23,600
1878-79	7,030
Total	51,812

82. The area of 85·32 acres stocked was cleared in the following manner :—

	Acres.
In spring 1880, various experiments ...	= 3 62
" " 1881, cut flush with the ground ...	= 18·10
" " " stumps stubbed out ...	= 63·60
Total ...	85 32

The wood was cut up into 5′ long billets and stacked along the roads surrounding the compartment. The outturn amounted to—

	Cubic feet stacked.
Táli with a little jhand	= 194,973
Táli and willow, mixed	= 1,876
Willow	= 6,900
Total ...	= 203,749
Add saleable thinnings	= 51,812
Grand total ...	= 255,561
Outturn per acre, total	= 2,995
" " per annum	= 272
Equal to	68 maunds,

it having been found by experiments that 4 cubic feet stacked weigh almost exactly one maund after the fuel has been drying for some time.

The material obtained was sold at Rs. 3-12 per 100 cubic feet stacked for all táli and jhand, and at reduced rates for willow. The cost of cutting and stacking comes to about Re. 0-12-0 per 100 cubic feet stacked, thus leaving a surplus of Rs. 3 per 100 cubic feet stacked for táli and jhand, equal to Rs. 12 per 100 maunds.

83. After the area had been cleared of all saleable material, the refuse and the grass were burnt. The holes made by stubbing were left open and the irrigation-channels restored. Early in April 1881 a watering was given, when roots and stumps sent up shoots freely. So far it is impossible to say which of the two systems is the best, root shoots or stump shoots, but up to date the former are certainly not behindhand. Should root shoots succeed well, all stumps will in future be taken out, as they increase the yield of material most considerably.

Any blanks existing in the compartment have been filled up.

84. Towards the close of the official year, similar cuttings were commenced in compartment 2; but as the work was not completed until after the close of the year, the details will be given in next year's report.

85. From the data given above it will be observed that a commencement has now been made to work Chánga Mánga on a large scale and in a regular rotation. In fact, if coppicing succeeds, at least 800 acres will have to be cut over annually. Under these circumstances it will be useful to recapitulate the cost and progress of the Chánga Mánga plantation, for which purpose the subjoined table has been compiled, showing receipts, charges and area planted.

Year.	Total area planted.	At Changa Manga.			Add one-fifth of expenditure of divisional office.	Actual cost of plantation.
		Total expenditure	Receipts.	Net expenditure		
	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
Up to 1868 ...	650	8,978	491	8,487	...	8,487
„ 1868-69 ...	1,040	9,077	984	8,093	1,485	9 578
„ 1869-70 ...	2,450	26,082	2,978	23,104	1,272	24,376
„ 1870-71 ...	3,650	38,458	2,512	35,946	1,994	37,940
„ 1871-72 ...	3,650	66,288	18,169	48,119	2,236	50,355
„ 1872-73 ...	6,250	56,649	7,763	48,886	2,580	51,466
„ 1873-74 ...	7,216	37,988	5,361	32,627	2,962	35,589
„ 1874-75 ...	7,216	31,436	2,599	28,837	2,201	31,038
„ 1875-76 ...	8,172	36,976	15,142	21,834	1,626	23,460
„ 1876-77 ...	9,112	28,671	5,017	23,654	1,944	25,598
„ 1877-78 ...	10,072	31,562	4,422	27,140	2,626	29,766
„ 1878-79 ...	11,409	34,965	7,796	27,169	2,143	29,312
„ 1879-80 ...	11,409	23,799	16,442	7,357	2,263	9,620
„ 1880-81 ...	11,409	15,883	14,235	1,648	2,615	4,263
Total ...	11,409	4,46,812	1,03,911	3,42,901	27,947	3,70,848

[Note.—The expenditure in 1880-81 has been unusually low, because the water-rent due to the Irrigation Department has not been paid during the year.]

86. The total net cost of the plantation on the 1st April 1881 amounted to Rs. 3,70,848. The question arises whether any interest should be charged on the capital laid out, and if so at what rate? If there had been a supply of fuel in the Punjab sufficient for all requirements, it would follow that the establishment of a plantation like Chánga Mánga should be looked at from a purely financial point of view. This, however, was not considered to be the case when the plantation was started. It was thought necessary to take steps to increase the supply of firewood, for the Punjab Railways especially, which otherwise would have to burn coal, only obtainable at very high rates. Under these circumstances it is difficult to decide in how far the charging of interest is justified, because it is not easy to estimate the indirect advantages of the plantation. Taking this into consideration, and also the point that the income from Chánga Mánga is of a very regular and safe nature, the most that can be expected is to charge a low interest. The Government of India can borrow at 4 per cent., and consequently calculating the interest on the outlay at that rate must be considered a very liberal allowance. The next point to be considered is, whether ground-rent should be charged or not. Properly speaking, this should be done; but then it is the rule, and not the exception, in India, that projects of public utility are generally assisted by the State, and as the establishment of plantations for the public benefit must be classed as such, it may fairly be claimed that no land-rent should be charged while the plantation was in formation. On the other hand, it should be taken into account from the 1st April 1881, the date from which the plantation may be considered as having come into working order.

The actual total cost of Chánga Mánga on the 1st April 1881, calculated with compound interest at the rate of 4 per cent., amounts therefore to Rs. 4,89,304 or in a round sum Rs. 5,00,000.*

87. It will not be out of place now to make a rough estimate of the financial results of the undertaking, for which there are quite sufficient data. The total area of the plantation amounts to 11,409 acres. There are, however, some blanks which should be allowed for, but the area actually stocked and

* Total cost = $8,487 \times 1{\cdot}04^{13} + 9,578 \times 1{\cdot}04^{12} + 24,376 \times 1{\cdot}04^{11} + 37,940 \times 1{\cdot}04^{10} + 50,355 \times 1{\cdot}04^{9} + 51,466 \times 1{\cdot}04^{8}$
$+ 35\,589 \times 1{\cdot}04^{7} + 31,038 \times 1{\cdot}04^{6} + 23,460 \times 1{\cdot}04^{5} + 25,598 \times 1{\cdot}04^{4} + 29,766 \times 1{\cdot}04^{3} + 29,312 \times 1{\cdot}04^{2} + 9,620 \times 1{\cdot}04 + 4,263$
= Rs. 4,89,304.

yielding may safely be estimated to amount to 9,000 acres. The average annual yield per acre in compartment 1 has been found to amount to 272 cubic feet stacked. This may also, for safety's sake, be reduced to 200 cubic feet, so that the total annual production of wood which may safely be removed comes to 1,800,000 cubic feet stacked. This material will realize, after deducting the cost of cutting and stacking, Rs. 50,000 in a round figure. There will be no difficulty in selling the wood at the rates given to the Sind, Punjab and Delhi Railway, whose contractor has taken all the wood cut last year. Should this fail—which, however, is not likely—then the wood will be taken into Lahore.

The annual expenditure of the plantation (exclusive of cutting operations, which have already been deducted from the receipts) may be estimated as follows, based on past experience:—

	Rs.
Establishment	4,500
Water-rent	10,000
Buildings and roads	1,000
Planting	5,000
Share of cost of divisional office ...	2,000
Land-rent, say	7,000 *
Contingencies	500
	30,000

leaving a balance of Rs. 20,000, which is equal to 4 per cent. on the outlay of Rs. 5,00,000. It will, however, be noticed that the data upon which the annual yield has been based, have been taken at very low figures. Besides, there will be receipts from grass and other minor produce, so that there can be no doubt that the interest on the capital invested will come to more than 4 per cent. per annum.

88. *Beas Division.*—In *Kulu* the following areas, it appears, have actually been stocked with deodar plants, but they have not been shown in form 46, because they are scattered over the natural forests:—

	Acres.
Dungri	60
Manalghan	84
Dana Bial	30
Sial Bial	85
Dudlu	43
Latura	4
Soma Chalaon	10
Total ...	316

In addition, sowings have been made in the Phulga and Sandhar forests.

During the year under review no new sowings were made owing to the total absence of deodar seed. The following transplanting of deodar seedlings from nurseries into the forests took place:—

	Plants.
In Soma Chalaon	3,546
In Sial Bial	451

These are doing well.

In Dudlu 267 ash seedlings were planted out, and these are thriving.

In the *Núrpur* range sowings of siris, khair, pistacia, mohwa, tun and táli on a small scale were done with fair success.

In the Chitril reserve 445 jaman and 80 táli were planted out, of which about one-half succeeded. The total area planted in this range amounts to 26 acres only. The Conservator visited the Núrpur range in February last, and he has arranged for the propagation of the chíl tree on a large scale, in preference to the small experimental plantations of trees which either do not grow

* Considering the large quantity of land available in tahsíl Chumán, and the want of water in the Bári Doáb Canal, the estimate of Rs. 7,000 must be considered very liberal.

naturally in Núrpur, or whose economic value is much smaller than that of chíl, the latter being a tree which grows well in these forests, and which is in great demand for local requirements, as well as for export.

In the *Dera* range altogether 68 acres have been stocked by way of experiments. During the year, tun and chíl seed was sown in 310 patches, arranged in lines 10 feet apart in the Balneal reserve. Tun germinated well, and chíl sparingly. The old tun plants raised from seed sown in 1875 have made remarkable progress.

In the Nalian reserve 1,072 táli seedlings were transplanted, of which two-thirds succeeded; the older plantings in this forest are doing well.

In Tilli 1,633 táli and siris were planted out, which succeeded well. Also some mohwa, sal and táli seed was sown in trenches, with success.

In the Bajuri trihai 500 tun plants were put out, of which 350 succeeded. The old táli, tun and oi plants are doing well.

In the Samlián reserve chíl, sal, mohwa, khair, siris and bamboo seed was sown, all of which came up well, except chíl and bamboo, which were destroyed by white ants.

Lower River range.—In Gagriwál rakh, kíkar seed was sown over about one acre, which came up well.

In the Bágarián plantation 3,700 willow cuttings were planted along water-channels.

89. *Phillour Division.*—Up to the end of 1880-81 the produce on 100 acres of the *Ludhiána* plantation has been sold to the Sind, Punjab and Delhi Railway Company, partly at 80 and partly at 90 rupees per acre. After the Railway had cut the trees, this Department took out the stumps, leaving, however, the roots, with the view of encouraging reproduction by means of root shoots. So far the result is favorable, but it is too soon to judge of the final results.

Subáthu.—As stated in last year's report, this Department has leased certain lands within the cantonment of Subáthu, with the view of planting them up for the supply of the station. The area so leased was given as 700 acres, for which an annual payment of Rs. 500 has to be made to the cantonment fund. It was reported last year that this area had been planted with fair success with khair, chíl, phulai, sanatha, táli and a few other kinds. During the year under review the Conservator visited Subáthu, and the information now at his disposal is this: In the first instance the area made over to this Department amounts only to 370 acres, and of this not more than about 15 acres were actually stocked on the 31st March 1881, hence operations have in reality yet to be commenced. The land in question is fit for chíl, which yields not only fair timber, but which is indigenous in the locality, and in general demand. It has, therefore, been decided to stock the area principally with chíl. Unfortunately that tree did not seed freely this year, and consequently only a limited quantity of seed could be collected. It is, however, expected that at any rate half the area available will be stocked during the current year.

6. Experiments.

90. *Australian Acacias.*—At *Bakloh*, near Dalhousie, *Acacia melanoxylon* was sown in October 1877. Of the seedlings thus obtained, 1,934, when from 1 to 2 feet high, were transplanted during the rainy season. Of these only 5

are now alive. On the other hand, of 12 plants left in the original nursery, none have died, and these are now about 9 feet high. The Divisional Officer is of opinion that this tree will not stand transplanting, which the Conservator is, however, not prepared to uphold.

In *Kulu*, at 5,000 feet elevation, the tree is reported as having made very little progress since last year; the same is said about *A. decurrens*. *A. dealbata* is said to look healthy and doing well.

At *Chánga Mánga* Australian acacias do not thrive.

91. *Species of Eucalyptus*—

Bakloh.—Of 9 species tried, *E. resinifera* is doing best. *Marginata amygdalina* and *cornuta* died down in winter.

Kulu (5,000′).—*E. stricta*, not transplanted, is reported to have made wonderful progress during the last two years.

E. stuartiana has not made much progress since last year.
E. goniocalyx looks strong and healthy, and has made fair progress.
E. viminalis, same as the former.
E. meliodora is doing well, but grows slowly.
E. globulus is doing well.
E. fissilis, strong and healthy, but of slow growth.

At Manali *E. globulus* has not succeeded.

Chánga Mánga.—

E. citriodora is doing well, and seems suited to the plains.
E. pilularis so far doing well.
E. siderophloia doing well so far.
E. goniocalyx does not thrive.
E. resinifera doing well.
E. rostrata „ „
E. calophylla „ „
E. culossea „ „

During the year, two of the large Eucalyptus trees at Chánga Mánga, some 60 feet high, were blown down, when it was found that white-ants had eaten up the greater part of the supporting roots. It is to be feared that damage of this kind will seriously interfere with the raising of Eucalyptus on a large scale in localities like Chánga Mánga.

Lahore—

E. cornuta doing very well.
E. citriodora „ „ „
E. corymbosa doing well.

Subáthu.—The several species of Eucalyptus have not done well here.

92. *Spanish chestnuts*, planted on the Sutlej near Kilba and Nachar, look stunted.

Olives from France are doing remarkably well at the Lee garden in Kulu (5,000 feet elevation).

Catalpa bignonioides continues to do very well at Chánga Mánga. It is also reported as doing well at the Lee garden.

The *Cork oaks* in Lee garden are reported to be doing somewhat better than last year.

Of other *European trees*, oaks, limes and elms are said to be growing vigorously at Manali in Kulu, while larch and beech look stunted.

7. Roads, Bridges, &c.

93. *Hazára Division.*—In order to establish direct communication between Natiagulli and Thandiáni, a road was commenced and 4 miles constructed

during the year. This road leads through the reserves situated between the above-mentioned two places, and makes them accessible for the officer in charge, which they were not hitherto.

In the *Rawalpindi* and *Gujránwála* Divisions the necessary repairs to existing roads were attended to.

In the *Pangi* Division the repairs of roads extended over a length of 53 miles. A bridge was thrown across the Chenab near the village of Luj at a cost of Rs. 399.

In the *Ravi* Division the existing roads in Kalatop were repaired, and a few small slides, for the extraction of sleepers, constructed.

Lahore Division.—The roads at Chánga Mánga were kept in repairs. The Chánga Mánga-Chunián road avenue was continued, Catalpa and Eucalyptus being planted; the former are doing well, but the latter suffer a good deal from white-ants.

Beas Division.—Existing roads were repaired, and a small bridge thrown over the Jibi stream in Kulu.

Bashahr Division.—The following works were carried out during the year:—

Roads and Bridges.—(1) An inspection path 2 miles long and 4 feet broad through the Tinden forest.

(2) A path 3 miles long and 3 feet broad from Wangtu bridge into Pandrabis.

(3) The road from Sholtu to Kilba, 5 miles long and 6 feet broad, was cleared of rocks, and the walls repaired.

(4) A protection-wall of the Sholtu bridge, which had been undermined by the river, was repaired, and the bridge generally put into order.

(5) A new bridge 30 feet long by 7 feet broad, with strongly built abutments, was thrown over the Phinla stream.

Slides.—(1) A slide 3 miles long and 12 feet broad was constructed near the Melgad stream.

(2) A slide 1 mile long by 12 feet broad at Jani.

(3) Several smaller slides of similar proportions. The old slides in use were kept in repair.

94. On the whole, it will be observed that the road works of the Forest Department are as yet on a small scale. A commencement towards extension has now been made in Hazára and Bashahr, where the Conservator, after an inspection of these divisions, has arranged to make the more important forests accessible, as far as this is not done by the existing roads. In Hazára a beginning has been made with the Natiagulli-Thandiáni road, and in Bashahr it is proposed to construct a number of bridle-paths, so as to enable the officer in charge to inspect the forests under his charge within a reasonable time. When the Conservator visits the other hill divisions, he will pay special attention to this branch of the work.

8. Buildings, &c.

95. In addition to the usual annual repairs, the following items may be noted:—

Hazára Division.—The former Club house at Thandiáni, situated in the middle of the reserves, has been purchased during the year for Rs. 500, to be used as a forest rest house.

Gujránwála Division.—The house at Bunni, in the Pabbi, taken over from the Railway Department has been put under repairs, estimated to cost Rs. 1,100. The house is to be for the use of the officer in charge of the Pabbi planting works.

Ravi Division.—A new room was added to the Mádhopur forest house.

Lahore Division.—A great difficulty as regards Chánga Mánga is the bad quality of the water. The supply by the canal is intermittent, and, consequently, for the greater part of the year the establishment has to rely on well water, which is very inferior. A new well has now been commenced close to the canal bed, which it is hoped will supply better water. The expenditure, however, is very heavy.

Bashahr Division.—At Kilba, an office, grain godown and munshi's quarters were erected.

CHAPTER V.—YIELD AND WORKING.

1.—Departmental Operations.

96. The departmental operations are given in detail in forms 53 to 56, of which the following tables are abstracts :—

A.—Trees felled during the year.

Division.	Deodar.	Other pines.	Miscellaneous trees	Total number of trees felled.	Remarks.
Hazára	...	169	37	206	
Pangi	1,023	...	...	1,023	
Ravi	1,445	51	2	1,498	
Beas	...	104	...	104	
Bashahr	2,157	...	...	2,157	
Total ...	4,625	324	39	4,988	

B.—Timber brought to Sale Depôts from the forests.

Division.	Deodar logs.	Other pine logs	Miscellaneous logs.	Sleepers.	Other pieces.	Total.	
						Pieces	Cubic feet.
Hazára	...	...	...	...	14,851	14,851	15,914
Rawalpindi	...	81	...	...	...	81	...
Jhelum	701	214	1	...	37	953	21,795
Gujránwála	798	259	...	143	1,152	2,352	22,406
Ravi	4,149	3,002	40	3,711	13,224	24,126	167,580
Beas	968	1,100	19	19,478	3,382	24,947	128,64
Phillour	6,152	2,198	...	477	110	8,937	140,917
Total ...	12,768	6,854	60	23,809	32,756	76,247	496,676

Add.—Hazára Division.	Shingles	...	...	323,300	pieces.
Rawalpindi „	Firewood	...	...	93,680	maunds.
„ „	Charcoal	...	...	6,329	„
„ „	Bamboos	...	...	15,568	pieces.
Lahore „	Firewood	..	..	604,558	cubic feet stacked.
„ „	Bamboos	...	...	13	pieces.
Beas „	„	...	...	656,885	pieces.
Phillour „	„	...	...	1,938	„

C.—*Timber removed from Depôts by Purchasers.*

Division.	Deodar logs.	Other pine logs.	Miscellaneous logs.	Sleepers.	Other pines.	Total	
						Pieces.	Cubic feet.
Hazára	...	...	...	...	14,793	14,793	15,735
Jhelum	1,491	455	...	...	31	1,977	66,845
Gujránwála ...	706	267	...	204	1,152	2,329	21,121
Ravi	4,149	3,002	40	2,423	12,245	21,859	164,635
Beas	744	1,137	...	19,274	3,138	24,293	120,990
Phillour	5,463	831	...	83	115	6,492	86,882
Total ...	12,553	5,692	40	21,984	31,474	71,743	476,208

Add.—Hazára Division, Shingles ... ... 323,300 pieces.
Rawalpindi „ Firewood ... ... 85,645 maunds.
„ „ Charcoal ... ... 3,592 „
„ „ Bamboos ... ... 12,789 pieces.
Lahore „ Firewood ... ... 698,909 c. ft. stacked.
Beas „ Bamboos ... ... 662,702 pieces.
Phillour „ Firewood ... ... 41,200 c. ft. stacked.
„ „ Bamboos ... ... 764 pieces.

D.—*Timber account of the year.*

	No.	Cubic feet.		No.	Cubic feet.
Balance at commencement of year	11,716	129,523	Removed by purchasers ...	71,743	476,208
Received during the year	76,247	496,676	Cut into sleepers ...	108	1,285
			Lost and used by the Department	216	643
			Returned to owners ...	2	51
			Erroneously shown in last year's return ...	29	622
			Balance at close of year ...	15,865	147,390
Total ...	87,963	626,199	Total ...	87,963	626,199

It should be mentioned here that the timber brought to, and removed from, sale depôts has been shown in the divisions in which the sale depôts are situated; it should, however, be borne in mind that the timber shown in the Jhelum depôts comes from Hazára, that in the Gujránwála depôts from Pangi, and that in the Phillour depôts from Bashahr.

97. The trees felled compare as follows with those of the previous year :—

In 1879-80 ... ... 4,777 trees.
In 1880-81 ... ... 4,988 „

which shows an increase of 211 trees in the latter year. There is, however, this difference between the two years, that 2,487 deodar trees were felled in 1879-80, against 4,625 in 1880-81. Of the latter number 1,257 were dead and fallen trees, and 3,368 green and standing trees. On the other hand, only 324 inferior pine trees were cut in 1880-81, as against 2,241 in 1879-80, the latter cuttings having somewhat overstocked the market with that class of timber.

98. The timber brought to depôt during the year compares as follows with that of the previous year:—

Divisions.	1879-80, cubic feet.	1880-81, cubic feet.	Increase.	Decrease.
Hazára	11,011	15,914	4,903	...
Jhelum (Hazára forests)	62,080	21,795	...	40,285
Gujránwála (Pangi forests)	71,335	22,406	...	48,929
Ravi	73,505	167,580	94,075	...
Beas	61,762	128,064	66,302	...
Phillour (Bashahr forests)	115,319	140,917	25,598	...
Total ...	395,012	496,676	101,664	...

The increase in Hazára is due to the steady increase in the demand on the part of the inhabitants of Murree and the stations in the gullies. The timber sold consists of inferior pine and miscellaneous timber, which is cut up by this Department into scantlings of such dimensions as are generally indented for.

The falling-off in Jhelum and Gujránwála is due to the cessation of fellings in Khágan and Pangi.

The great increase in the Ravi has been brought about, without fellings, by clearing the river and its branches of old timber, some of which had been in transit for 10 years. The increased outturn in the Beas Division is due to the bringing to depôt of sleepers cut in former years.

In the Phillour Division a further increase may be expected during the current year, as 2,000 deodar trees are now being cut annually in the Bashahr forests.

99. The quantity of timber sold and removed from depôts during the year under review compares thus with that of the preceding year:—

	Cubic feet.
In 1879-80	... 482,037
„ 1880-81	... 476,208
Less removed	5,829

It will be observed that the difference is insignificant. There was, however, a difference in prices, the latter having been less favorable during the year 1880-81 than in 1879-80.

100. The following remarks regarding the several divisions may be added:—

Hazára and Jhelum.—There are still 5,493 logs in and near the rivers which, it is hoped, will reach Jhelum during the year 1881-82.

Pangi and Gujránwála.—Of the 1,023 deodar trees felled, 656 were converted into 2,337 logs, 128 were cut into 2,422 broad-gauge sleepers, and 239 will be converted into logs in 1881-82.

768 deodar logs and 22 sleepers were launched. At the close of the year, 1,569 deodar logs and 2,402 sleepers remained in the forests.

Ravi Division.—1,000 green deodar trees were felled during the year besides 445 dead and fallen trees. Of the former, 264 were cut-up into 1,499 logs of an average length of 13½ feet, giving an average length of bole per tree used for timber of 77 feet. Of these logs, 725 were launched, while 774 remained in the forest at the close of the year. The remaining 736 trees will be cut into logs in 1881-82.

7,544 broad-gauge and 1,466 narrow-gauge sleepers were cut from dry and fallen deodar trees, while 10,601 of the former class and 1,466 of the latter were launched. During the current year fellings will be restricted to dry and fallen trees, which will be chiefly converted into sleepers.

Beas Division.—No deodar trees were cut during the year, and, as already indicated above, the timber brought to depôt consisted of the produce of former cuttings. From information supplied to the Conservator it appears that only a very small number of mature deodar trees remain in the Kulu forest, so that probably only a small outturn of timber can be expected from them for years to come.

Bashahr and Phillour.—The fellings in Bashahr are made in accordance with the provisions of the working plan, which allows the cutting of 2,000 trees per annum. Since the close of the year the Inspector General of Forests and the Conservator have, after examining the forests, come to the conclusion that 2,000 deodar trees may safely be cut annually, besides such other pine trees as may be saleable. Hence the outturn from this division should, if dry and windfall timber is taken into account, average 200,000 cubic feet of deodar per annum.

During the past year the following trees were cut :—

Green deodar			1,340 trees.
Windfall deodar			817 „
Total ...			2,157
On hand from previous year ...	Deodar	39	
	Blue pine	634	673
GRAND TOTAL ...			2,830

Of these, 2,404 were converted into 11,479 logs, leaving a balance of 426 deodar trees to be logged in 1881-82.

The following timber was launched :—

Deodar logs	10,361
Blue pine logs	4,028
Deodar scantlings	86
Total ...	14,475 pieces.

At the close of the year there remained in the forests—

Deodar logs	3,546
Blue pine logs	1,286
Total ...	4,832 logs.

101. The total quantity of timber removed from the hill divisions during the year compares as follows with the average of the previous 10 years :—

DESCRIPTION OF TIMBER.	ANNUAL AVERAGE OF THE 10 YEARS OF 1869-70 TO 1879-80.		OUTTURN OF 1880-81.	
	No.	Cubic feet.	No.	Cubic feet.
Deodar logs	28,480	523,552	12,768	230,342
„ sleepers	25,396	40,820	23,809	79,449
Inferior pine logs	8,533	130,615	6,854	112,651
Miscellaneous woods	110	611	60	204
Scantlings, scraps, &c.	18,702	37,297	32,756	74,030
TOTAL ...	81,221	732,895	76,247	496,676

There is no doubt that the average of the past 10 years cannot be kept up in the future, at any rate for some years to come. The Bashahr forests will yield steadily 200,000 cubit feet deodar per annum, but the other four divisions together cannot be relied on for more than another 200,000 cubic feet, making a

total of 400,000 cubic feet of deodar. In addition about 100,000 cubic feet of inferior pine wood may be disposed of annually, thus bringing the total outturn which may be expected during the next future up to 500,000 cubic feet annually. As regards the financial aspect of the question, some remarks will be found in the next chapter.

102. The above remarks refer to the large timber operations in the hill divisions. As regards other departmental operations, it will be noticed that a considerable increase has taken place during the year under review.

In the *Hazára* Division 323,300 shingles were cut and disposed of, against 70,100 in 1879-80.

In the *Rawalpindi* Division 93,680 maunds of firewood and 6,329 maunds of charcoal were brought to depôt, as against 59,441 and 3,346 maunds respectively in 1879-80. The sales during the year were 85,645 maunds of firewood and 3,592 maunds of charcoal, as against 58,191 and 3,346 maunds respectively in 1879-80. In para. 117 of last year's report, a sketch was given of the system which it was proposed to introduce, with the view of putting the fuel supply of Rawalpindi on a satisfactory footing. The main features of it are—1st, a reserve stock of not less than 50,000 maunds of firewood stacked at accessible places; and 2nd, the establishment of two depôts—one in the Sadar Bazár and the other in Cantonments—at both of which fuel is sold by middlemen, who take over the fuel from the Forest Department on arrival at the depôt, paying for it at a fixed rate, and who sell it in retail at a somewhat enhanced rate. This system has been introduced, and it has worked well so far. In fact no complaints of any kind have reached the Conservator for some time past.

In the *Lahore* Division 604,558 cubic feet stacked of firewood were cut, chiefly in the Chánga Mánga plantation, while 698,909 cubic feet were sold. As cuttings in Chánga Mánga have now commenced, it is probable that the quantity cut and stacked during the year 1881-82 will amount to upwards of a million and a half of cubic feet. The system to be followed has been explained in Chapter IV under Sowing and Planting, but as Chánga Mánga has now become a regular forest and emerged from the planting stage, the cutting operations will in future be recorded in the Chapter of Yield and Working, instead of under Sowing and Planting.

2.—Material removed from the Forests by Purchasers.

103. The subjoined table, which is an extract from Appendix A, shows the material removed by purchasers during the year—

Division.	Trees.			Poles.	Firewood.	Charcoal.	Bamboos.	Coal.
	Deodar.	Other trees	Total					
	Number.			No.	Cubic feet stacked.	Mds.	No.	C. feet measured
Hazára	...	208	208	...	52,914	168	...	...
Rawalpindi	...	1,206	1,206	1,249	1,083,368	...	...	...
Jhelum	...	183	183	...	230,459	...	...	29,599
Gujránwála	...	...	...	...	213,300	...	...	...
Ravi	...	26	26	...	...	...	...	...
Mooltan	...	...	...	2,974	3,383,539	...	...	...
Beas	173	6,804	6,977	...	...	...	...	...
Phillour	...	...	...	711	15,300	...	10,880	...
Total ...	173	8,427	8,600	4,934	4,978,880	168	10,880	29,599

The figures under firewood are given in cubic feet stacked. In a few instances the data supplied by the Divisional Officers were given in maunds, which have been converted into cubic feet stacked by substituting 1 cubic feet for every maund. The quantities of firewood sold in the shape of petty permits and for lime burning have been estimated, but they form only a small proportion of the total quantity.

These figures compare as follows with those of the year 1879-80 :—

Description of material.		1879-80.	1880-81.	More.	Less.
Deodar trees ...	No.	263	173	...	90
Other trees ...	No.	4,313	8,427	4,114	...
Poles ...	No.	3,792	4,934	1,142	...
Firewood, c. feet stacked ...		5,879,781	4,978,880	...	900,901
Charcoal, maunds		6,321	168	...	6,153
Bamboos, pieces		...	10,880	10,880	...
Coal, c. feet measured ...		...	29,599	29,599	...

It will be observed that a larger number of miscellaneous trees has been sold, while on the other hand the sales of firewood have been 900,901 c. feet less than in 1879-80. The latter falling off is entirely due to reduced sales to the Punjab Northern State Railway. The sales in the Mooltan Division have increased from 2,840,502 c. feet to 3,383,539, so that in reality the sales to private parties have increased during the last year. The decrease in the sale of charcoal is only apparent, because the firewood, out of which the charcoal has been burnt, was sold according to measurement, and the material has therefore been entered as firewood and not as charcoal.

104. During the year coal mining was started in the salt range, and up to the end of the year 29,599 cubic feet measured were sold. The coal, as is well known, is scattered over large areas, and its mining causes considerable damage to the rukhs The Forest Department is obliged to keep up an extra staff to control the miners, so that little profit is derived from these operations, although a royalty of Rs. 2 per ton of coal is charged. It has been suggested that this royalty should be considerably reduced. If this is done, absolute loss to the Department will be the consequence, owing, as stated above, to the fact that the coal appears only in nests scattered over the reserves,

105. During the year the produce standing on 40 acres of the Ludhiána plantation was sold to the Sindh, Punjab and Delhi Railway at Rs. 90 per acre. This material has not been included in the above figures.

3.—Free grants of forest material.

106. The free grants reported were as follows :—

Division.	Trees granted free.				Remarks.
	Deodar.	Other pine	Miscellaneous.	Total.	
Hazára	12	...	...	12	* No returns have been received, though grants have been made by the Tahsildárs of Murree and Kahuta.
Rawálpindi* ...	...	...	...	...	
Pangi	54	75	...	129	
Ravi	166	Not	known	166	
Beas	454	38,352	168	38,974	
Bashahr	70	2,907	...	2,977	
Total ...	756	41,334	168	42,258	

These figures compare as follows with those of the year 1879-80 :—

Description of trees.	1879-80.	1880-81.	More.	Less.
Deodar...	1,865	756	...	1,109
Other pines	40,256	41,334	1,078	...
Miscellaneous trees	100	168	68	...
Total ...	42,221	42,258	37	...

There is only a difference of 37 trees in the totals of the two years. The grant of deodar trees, however, has sunk from 1,865 trees in 1879-80 to 756 in the year under review. The grants are moderate except those in the Beas Division. In the latter, 38,974 trees were given as against 32,463 trees in the year 1879-80. In para. 126 of last year's report, the Conservator drew attention to the large grants made in Kulu, and Government called for a special report on the subject. The grants made in Kulu during the two years compare as follows :—

In 1879-80	30,285	trees.
„ 1880-81	35,307	„
Increase ...	5,022	

The grants of 1880-81, arranged according to the four quarters of the year, stand thus—

First Quarter up to 30th June	1880	grants	... 21,632
Second „ 30th September	1880	„	... 9,509
Third „ 31st December	1880	„	... 3,056
Fourth „ 31st March	1881	„	... 1,110
		Total	... 35,307

The Divisional Officer reports that the year 1881-82 will show a great reduction. The data given show clearly that until the matter attracted the attention of the Conservator of Forests and of Government the grants were largely in excess of actual requirements,—in fact they were made in a reckless manner, which does not reflect to the credit of the Divisional Officer. Of the trees granted in 1880-81, some 4,147 have not even been cut, which no doubt proves the justice of the above remark.

4.—Summary of Material removed from the Forests.

107. The sum total of produce removed from the forests during the year under review may be seen from the subjoined table :—

Division.	Trees.			Poles.	Firewood, cubic feet stacked.	Charcoal, maunds.	Bamboos,	Coal, cubic feet measured.
	Deodar.	Other trees.	Total.					
	Number.			No.			No.	
Hazára	12	414	426	...	52,914	168	...	...
Rawalpindi ...	...	1,206	1,206	1,249	1,458,088	6,329	15,568	...
Jhelum	...	183	183	...	230,459	...	...	29,599
Gujránwála ...	...	...	...	...	213,300	...	...	...
Pangi	1,077	75	1,152	...	...	...	...	...
Ravi	1,611	79	1,690	...	...	...	...	...
Lahore	...	...	...	...	604,558	...	...	...
Mooltan ...	...	...	...	2,974	3,383,539	...	...	...
Beas	627	41,281	41,908	...	...	...	656,885	...
Bashahr... ...	2,227	2,907	5,134	...	...	...	...	...
Phillour... ...	...	...	...	711	15,300	...	12,818	...
Total ...	5,554	46,145	51,699	4,934	5,958,158	6,497	685,271	29,599

Note.—The 4,147 trees granted in Kulu, but not cut, have not been included in this statement.

These figures compare as follows with those for 1879-80 :—

Description of produce.	1879-80.	1880-81.	More.	Less.
Trees and poles cut, No. ...	59,081	56,633	...	2,448
Firewood, cubic feet stacked ...	6,515,505	5,958,158	...	557,347
Charcoal, maunds	9,667	6,497	...	3,170
Bamboos, No. ...	644,238	685,271	41,033	...
Coal, cubic feet measured ...	...	29,599	29,599	...

This table shows that fewer trees and less firewood and charcoal have been removed, while the quantity of bamboos cut is slightly in excess of that of 1879-80. In spite of these reductions, it will be shown further on, that the net revenue has increased as compared with last year.

5.—Foreign Timber imported into British Territory.

108. The following data have been compiled from the Divisional Returns :—

River by which the timber was imported.	Territory from which the timber came.	Deodar logs.	Other pine logs.	Sleepers.	Total pieces.
		Number.	Number.	Pieces.	
Jhelum	Kashmir	8,619	1,520	5,352	15,491
Chenab	"	35,098	4,716	218,854	258,668
Ravi	"	2,950	900	33,597	37,447
Beas	Mandi	...	...	36	36
Sutlej	Native States.	279	200	12,182	12,661
Total ...	...	46,946	7,336	270,021	324,303

In the above statement the cubical contents have not been given, as the data supplied were not reliable. Other produce has been omitted for the same reason.

The figures given compare as follows with those of the year 1879-80 :—

	1879-80	1880-81
Deodar logs	21,168	46,946
Other pine logs	5,845	7,336
Sleepers	288,162	270,021

It will be observed that the quantity of deodar timber imported during the last year has been greatly in excess of that of the year 1879-80.

109. In comparing the above figures with those of the timber removed from the Government Forests, the following results are obtained :—

	Deodar logs, No.	Other pines, No.	Sleepers, No.
Timber removed by Government Agency from forests under British control ...	12,768	6,854	23,809
Imported from foreign territory	46,946	7,336	270,021
Total in 1880-81	59,714	14,190	293,830
Total in 1879-80	34,992	7,896	306,123
Increase	24,722	6,294	...
Decrease	...	...	12,293

Roughly speaking, the increase in the supply of deodar may be estimated at 600,000 cubic feet, and this has caused a considerable fall in the price, whereby the surplus of the year has been seriously affected.

110. It may be useful to mention here, that of late a good many inferior pine sleepers have been brought into the market. It is believed that some of these have been mixed with deodar sleepers, with the view of passing them off as the latter class of timber.

CHAPTER VI.—FINANCIAL RESULTS.

111. The details of the financial results of the year will be found in Forms Nos. 49 to 52 appended to this report.

Year.	Receipts.	Charges.	Surplus.	Deficit.	Timber sold during the year, cubic feet.
	Rs.	Rs.	Rs.	Rs.	Rs.
1876-77	5,98,754	5,22,482	76,272	...	6,31,176
1877-78	6,83,710	5,17,166	1,66,544	...	7,94,025
1878-79	5,00,620	5,23,554	...	22,935	4,96,320
1879-80	6,49,819	80,676	1,69,143	...	4,82,037
1880 81	6,71,679	4,95,368	1,76,311	...	4,76,208
Average per year ...	6,20,916	5,07,849	1,13,067	...	5,75,953

These figures show that the revenue of the year under review is higher, and the expenditure lower, than the average of the last 5 years, while the net surplus is the highest which has been obtained during that period. At the same time it should be noted (1), that the quantity of timber sold during the year has been smaller than that sold in any of the 4 preceding years, it being 99,745 cubic feet below the average of the last 5 years, and (2), that the prices ruling during the year were very low, owing to increased imports from Kashmír.

On the whole, therefore, the financial results are very satisfactory.

112. The value of the year's transactions stands thus—

	Rs.
Cash surplus	1,76,311
Difference of stock at *Sale* depôts in favor of the year ... ... [*Vide* Form 60]	19,831
Value of year's transaction, surplus ...	1,96,142

This compares as follows with the 2 preceding years :—

	Rs.
Value of the transactions of 1878-79 ...	61,156
Value of the transactions of 1879-80 ...	1,02,196
Value of the transactions of 1880-81 ...	1,96,142

which means, considering that the sales of timber have been pretty much the same during those years, that there has been a rapid improvement in the *economical* working of the Department during the last two years.

113. In the appended Form No. 49, the receipts and charges are shown according to the divisions in which the transactions took place. The timber taken from the Hazára deodar forests is for convenience' sake sold by the Officer in charge of the Jhelum Division, and the revenue is credited in the latter. The Pangi timber is sold in the Gujránwála Division, and the Bashahr timber in the Phillour Division. It will be useful to re-arrange the receipts and charges here according to the forests from which the material sold has been derived. In this manner the following distribution has been obtained, which, however, is only approximately correct :—

Forest circle.	Receipts.	Charges.	Surplus.	Deficit.
Direction	5	38,448	...	38,443
Hazára	67,958	50,286	17,672	...
Rawalpindi	87,770	59,929	27,841	...
Jhelum ... ... / Gujránwála	112,776	33,159	79,617	...
Pangi and Ravi } Chamba	77,038	123,027	...	45,989
Lahore	46,814	40,341	6,473	...
Mooltan	99,570	22,119	77,451	...
Beas	120,584	66,440	54,144	...
Bashahr and ... ... / Phillour	59,164	61,619	...	2,455
Total ...	671,679	495,368	176,311	...

The two divisions which show deficits are Chamba and Bashahr, or, in other words, the leased forests. The deficit of the former amounts to Rs. 45,989. From this a sum of Rs. 10,500 paid too much to the Chamba State by oversight, and which was recovered in April 1881, should be deducted, leaving a deficit of Rs. 35,489 to be accounted for. The timber sold during the year comes to 185,756 cubic feet and that brought to depôt to 189,986 cubic feet, leaving a balance of 4,230 cubic feet in favor of the year, so that the actual loss would still amount to about Rs. 30,000. There have been hardly any cuttings of green trees for a number of years past, and the timber brought to depôt during the year under review consisted chiefly of old pieces, which had been lying in the rivers for many years past. In order to protect Government against actual loss it will be necessary to cut steadily within the limits of the possibility of the forests. A commencement has been made during the past year by cutting 2,023 green deodar trees, the timber of which will commence arriving at depôts during the year 1881-82.

The deficit of Rs. 2,455 in Bashahr is due to the timber from those forests having been sold after the close of the financial year. The timber brought to depôt during the year amounted to 140,917 cubic feet, while only 86,882 cubic feet were sold, leaving a balance of 54,035 cubic feet in favor of the year's transactions.

114. By arranging the receipts and charges, as directed by Government, under the three main heads, the following results are obtained :—

	Receipts.		Charges.		Surplus	Deficit
		Rs.		Rs.	Rs.	Rs.
I. Departmental timber operations ...	I and III	3,22,143	I, III, V, ½ VI & ⅓ B, less Rs. 14,000	2,53,422	68,721	...
II. Other revenue ...	II, IV & V	3,49,536	II, IV, ¼ VI, IX & ⅓ B plus Rs. 4,000	1,02,802	2,46,734	...
III. Formation, protection and improvement of forests ...	...	...	¼ VI, VII, VIII & ⅓ B plus Rs. 10,000	1,39,144	...	1,39,144
Total ...	...	6,71,679	...	4,95,368	1,76,311	...

NOTE.—The distribution has been made in the manner explained in paragraph 134 of the report for 1879-80, with this difference that Rs. 14,000 of the expenditure have been deducted from I, while Rs. 4,000 were added to II, and Rs. 10,000 to III, for the following reasons. By an oversight Rs. 10,500 too much were paid to the Chamba State, which are shown under A. V. On the other hand, the Chánga Mánga water-rent, amounting to Rs. 10,161, due on account of the year, was not paid. Under these circumstances Rs. 10,000 have been transferred from I to III. And again Rs. 4,000 were transferred from I to II, because this amount was paid to shareholders of forests in Kángra, the revenue from which is credited under II.

The figures compare with those of the previous year as follows :—

	1879-80.		1880-81.	
	Surplus.	Deficit.	Surplus.	Deficit.
I. Departmental timber operations ...	97,809	...	68,721	...
II. Other revenue	219,270	...	246,734	...
III. Protection, Improvement, &c. ...	...	147,936	...	139,144
Total	169,143	...	176,311	...

The surplus from departmental timber operations is somewhat smaller than last year, because (*i*) 101,664 cubic feet of timber were brought to depôt in excess of that of 1879-80 ; (*ii*) 5,829 cubic feet of timber less were sold ; and (*iii*) owing to the large imports from Kashmír, prices were much lower than in the previous year.

Outstandings and Liabilities of the Department.

115. There are no liabilities of the Department. The outstandings amounted to Rs. 24,191 at the commencement, and to Rs. 17,569 at the close of the year. Of the latter sum Rs. 10,318 were in the hands of Government Officers, while Rs. 7,251 were due by outsiders. This amount is very moderate. No new advances are now given, except on security.

Outstandings on account of Revenue.

116. These amounted to Rs. 55,818 at the commencement, and to Rs. 44,847 at the close of the year. The latter sum consists of the following items :—

			Rs.
Outstandings on account of timber and fuel—			
a. Due by Government Officers ...	5,088		
b. Due by private parties ...	5,450	=	10,538
Outstandings on account of grazing			34,302
Do. do. miscellaneous items ...			7
Total ...			44,847

Of the sum due by private parties on account of timber, &c., Rs. 4,076 have been entered as due by a contractor on account of fuel sold to him from Chánga Mánga. This material had, however, not been removed on the 31st March, and therefore the above sum should not have been shown as an outstanding. Hence the sum actually due under this head amounts only to Rs. 1,022, which consists of old items. The collection of the grazing dues outstanding is in the hands of the Deputy Commissioners, so that this Department cannot interfere. The figures compare as follows with those of last year :—

	Rs.
Outstanding on 31st March 1880 ...	45,294
Outstanding on 31st March 1881 ...	34,302

There seems to be some difficulty in realizing the grazing due within the financial year. Generally speaking the outstandings are small.

STATEMENTS.

Annual Form No. 45.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Reserved Forests, 1880-81.

Division or Range.	Name of Forest.	Area on 1st April 1880.	Added during the year.	Excluded or transferred to other heads.	Total on 31st March 1881.	No. and date of Notification of additions and transfers, &c.	Remarks.
		Square miles.	Square miles.	Square miles.	Square miles.		
HAZARA ...	Dungágali ...	63	...	...	63	...	
	Kághan ...	90	...	...	90	...	
	Sirán Valley ...	33	...	...	33	...	
	Khárpur ...	50	...	...	50	...	Transferred from Rawalpindi Divn.
	Total ...	236	...	...	236	...	
RAWALPINDI...	RAWALPINDI.						
	Márgalá ...	38	...	...	38	...	
	Baingala ...	1	...	...	1	...	
	Tamaira ...	7	...	...	7	...	
	Maira ...	2	...	...	2	...	
	ATTOCK.						
	Khorimár ...	6	...	...	6	...	
	Kawágarh ...	7	...	...	7	...	
	FATTAHJANG.						
	Khairi Múrat ...	29	...	...	29	...	
	Kauliál ...	2	...	...	2	...	
	Gujjar Khan Bághám	12	...	...	12	...	
	Total ...	104	...	...	104	...	
GUJRANWALA.	Gujrat Rakhs ...	2	...	...	2	...	Transferred from late Fuel Reserve North, and now Jhelum Division.
	Islands in Chenab...	2	...	...	2	...	
	Pabbi Forest ...	39	...	...	39	...	
	Gujránwála Plantations	2	...	...	2	...	Transferred from Plantation, now Lahore Division.
	Total ...	45	...	...	45	...	
PANGI ...	CHAMBA.						
	Darwás ...	7	...	...	7	...	Area given under Chenab Division in last year's return was 61 square miles. It is now given as 57 square miles, the difference of 4 square miles having been struck off.
	Kilár ...	8	...	...	8	...	
	Sánch ...	10	...	...	10	...	
	Purti ...	17	...	...	17	...	
	Tindi ...	15	...	...	15	...	
	Total ...	57	...	...	57	...	
	Carried over ...	442	...	...	442	...	

Annual Form No. 45.—[*Prescribed.*]

Forest Department, Punjab.

Area of Reserved Forests, 1880-81.—continued.

Division or Range.	Name of Forest.	Area on 1st April 1880.	Added during the year.	Excluded or transferred to other heads.	Total on 31st March 1881.	No. and date of Notification of additions and transfers, &c.	Remarks.
		Square miles.	Square miles.	Square miles.	Square miles.		
	Brought forward ...	442	...	...	442	...	
Ravi ...	Kálátop ...	4	...	...	4	...	
	Kainthli ...	1	...	...	1	...	
	Bakloh ...	2	...	...	2	...	
	Banni Khot ...	1	...	...	1	...	
	Ravi, Suil and tributaries	150	...	...	150	...	
	Total ...	158	...	...	158	...	
	Lahore.						
Lahore ...	Chánga Mánga ...	28	...	...	28	...	
	Shahdara ...	2	...	...	2	...	
	Jhoke ...	4	...	...	4	...	
	Sadhánwali and Muzang	1	...	...	1	...	
	Amritsar Plantations	3	...	...	3	...	
	Total ...	38	...	...	38	...	
Mooltan ...	Sarái Sidhu ...	53	...	...	53	Notification No. 55 F, dated 7th Feby. 1881.	
	Lodhran ...	...	10	...	10		
	Mailsi ...	...	45	...	45		
	Total ...	53	55	...	108		
	Hoshiarpur.						
Beas ...	Panjál ...	3	...	...	3	...	
	Loharu ...	7	...	...	7	...	
	Darni ...	5	...	...	5	...	
	Karnpur ...	6	...	...	6	...	
	Bindraban ...	4	...	...	4	...	
	Amritsar, Gagriwál	1	...	...	1	...	
	Gurdaspur.						
	Bagárián, Mullanwal	1	...	...	1	...	
	Kangra.						
	Dera ...	17	...	...	17	...	
	Núrpur ...	16	...	...	16	...	
	Total ...	60	...	...	60	...	
Bashahr ...	Bashahr ...	38	97	...	135	Under lease and rules pursuant to it	
	Total ..	38	97	...	135		
Phillour ...	Jullundur Plantations	1	...	...	1	...	
	Ludhiána & Umballa	1	...	...	1	...	
	Total ...	2	...	...	2	...	
	Grand Total ...	791	152	...	943	...	

Annual Form No. 45.—[*Prescribed.*]

Forest Department, Punjab.

Area of Protected Forests, 1880-81.

Division or Range.	Name of Forest.	Area on 1st April, 1880.	Area added during the year.	Excluded or transferred to other heads	Total on 31st March 1881.	No. and date of Notification of additions and transfers, &c.	Remarks.
		Square miles.	Square miles.	Square miles.	Square miles.		
Rawalpindi Divn.	Kála Chitta ...	171	...	..	171	...	
	Total ...	171	...	..	171		
Gujránwála Divn.	Gujránwála ...	...	140	...	140	Notification No. 345 F, dated 26th Aug. 1880.	
	Total ...	...	140	...	140	...	
	Grand Total ...	171	140	...	311	...	

Annual Form No. 45.—[*Prescribed.*]

Forest Department, Punjab

Area of Unreserved Forests, 1880-81.

Division or Range	Name of Forest.	Area on 1st April 1880.	Added during the year.	Excluded or transferred to other heads	Total on 31st March 1881.	Number and date of Notification of additions and transfers, &c.	Remarks.
		Square miles.	Square miles.	Square miles.	Square miles.		
Rawalpindi.							
Rawalpindi District	Various ...	374	...	...	374		Area in last year's statement was incorrectly entered by Divisional Officer.
Peshawar District ...	...	1	...	..	1		
	Total ...	375	...	...	375		
Jhelum.							
Jhelum District ...	Belás on Jhelum River	3	...	...	3		2 square miles transferred from Hazára Division.
Ditto ...	Salt Range ...	490	...	33	457	Govt. No 525 F, dated 12th December 1880.	20 sq. miles relinquished by Government, 13 sq miles made over to district.
Shahpur (Khushab)	Do. ...	211	...	...	211		
Shahpur (Bhera) ..	Rukhs in plains ...	231	...	..	231		
	Total ...	935	...	33	902		
Gujranwala.							
Jhang District ...	Various ...	137	...	...	137	Notification No 345 F, dated 26th August 1880.	Gazetted as protected forests * Total area 231 sqr. miles, and not 230 as given in last year's report.
Gujránwála District	Do. ...	231*	...	140	91		
Gujrat District ...	Rukhs in plains ...	32	...	...	32		
Chenab River Range	Belás ...	12	...	...	12		
	Total ...	412	...	140	272		
Ravi.							
Gurdáspur District ...	Shahpur Kundi ...	21	...	...	21		Gazetted under Section 79 and Chapter II of Act VII of 1878 Notification No 22 F, dated 10th January 1881.
Chumba ...	Forest area in Chumba State ...	16	...	...	16		
	Total ...	37	..	...	37		
Lahore.	Rukhs in Lahore Tahsil	33	...	...	33		In last year's return 3 rukhs were omitted. These have now been added.
	Rukhs in Chunian Tahsil	174	...	1	173		687 acres returned to district; 10 acres given to Bawa Lal Das.
	Rukhs in Sharakpur Tahsil	115	...	...	115		
	Total ...	322	...	1	321		
	Carried over ...	2,081	...	174	1,907		

Annual Form No. 45.—[*Prescribed*].

Forest Department, Punjab.

Area of Unreserved Forests, 1880-81—concluded.

Division or Range	Name of Forest.	Area on 1st April 1880	Added during the year.	Excluded or transferred to other heads	Total on 31st March 1881.	Number and date of Notification of additions and transfers, &c.	Remarks.
		Square miles.	Square miles.	Square miles.	Square miles.		
	Brought forward ...	2,081	...	147	1,907		
Mooltan.							
Montgomery District	Various Rukhs ...	864	...	3	861	Punjab Govt. No. 1101, dated 21st October 1877.	2,000 acres granted in proprietary right from rukh Guzera to Ghulam Hyder Khan.
Mooltan District ...	Do.	99*	...	55†	44		*Transferred to reserved list. †The additions of 19 square miles are areas omitted last year.
Muzaffargarh District	Do.	89	...	...	89		
Dera Ghazi Khan District	Do.	29	...	...	29		
	Total ...	1,081	...	58	1,023		
Beas.							
Hoshiárpur District	Various ...	66	...	...	66		170 square miles proposed as reserves. Gazetted under Section 4, Notification No 271 F, dated 8th July 1880.
Kángra District ...	Do.	460	...	...	460		
	Total ...	526	...	...	526		
Bashahr ...	Various ...	34	...	...	34		Left out in last year's statement.
	Total ...	34	...	...	34		
Phillour.							
Umballa District ...	Kalesar ...	50	...	..	50	Punjab Govt. No 181 F, dated 19th February to Financial Commissioner.	Transferred from Sutlej, now Bashahr Division.
	Sarungwal ...	...	...	...	...		This block containing 250 acres was transferred from the Military Department.
	Total ...	50	...	...	50		
	Grand Total ...	3,772	...	232	3,540		

Annual Form No. 46.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1880-81.

Division.	Name of Plantation	On 1st April 1880		During 1880-81.		On 31st March 1881.		Remarks.
		Area.	Total cost	Area added.	Cost.	Total area	Total cost.	
	Plantations	Acres.	Rs.	Acres.	Rs.	Acres.	Rs	
Hazara	Chánglagali	44	3,357	1	120	44	3,477	
	Kujagali	12				13		
	Kuthi	10				10		
Rawalpindi	Khairi Múrt	65	978	...	...	.	978	Area being unstocked, hence struck off.
Jhelum ...	Piraghaib Bela . ..	311	1,731	14	282	325	2,013	
	Saila Bela	182	...	...	...	...	...	The area of 182 acres in Bela Saila is entirely unplanted, hence omitted.
Gujranwala.	Belas Pindi Tatár and Nath	173	3,002	...	361	173	3,363	Transferred from the late Fuel Reserve North and now Jhelum Divn
	Bela Sádhoke	17	233	...	79	1	312	In Sádhoke there is nothing left but a small nursery, hence area excluded.
	Thatta Faqirullah ...	393	3,630	...	41	393	3,671	Transferred from Lahore Division.
Ravi ...	Basu Plantation ...	149	3,234	..	...	149	3,234	
	Dhauri ditto ..	25	165	...	..	25	165	
Lahore ...	Chánga Mánga	11,409	4,04,743	...	15,371	11,409	4,20,114	
	Shahdara (Jugián, &c)	1,222	24,471	..	861	711	25,332	511 acres being unstocked, hence struck off.
	Jhok and Sádhánwáli	1,290	22,875	...	363	1,290	23,238	
	Nág	412	29,273	...	79	412	29,352	
	Muzang (Carob) ...	23	3,317	..	697	23	4,014	
	Baoli Lehna Singh ..	641	30,204	...	244	...	30,248	Area being unstocked, hence struck off.
Beas ...	Manáli Forest Garden	2	666	...	31	2	697	
	Lee ditto ...	4	822	...	130	4	952	
Bashahr ..	Sholtu	6	586	...	..	6	586	
Phillour ..	Jullundur	51	3,700	..	40	51	3,740	
	Phillour	239	13,720	...	172	239	13,892	
	Ludhiána	190	6,888	...	53	190	6 941	
	Jagádhri	184	9,499	...	48	184	9,547	
	Subáthu	* 700	2,568	...	1,721	15	4,289	
	Total of Plantations ..	17,754	5,69,662	15	20,693	15,669	5,90,355	* In last year's report 700 acres were entered as planted in Subáthu, this was an error, as only 237 acres were sown The total area received from the Military authorities appears to be only 370 acres and not 700, of which 15 acres were actually stocked at the end of the year.
	Rakh Improvement							
Gujranwala.	Chichra Rakh	55	5,256	..	48	...	5,304	Transferred from Lahore Division, only a few seedlings here and there, hence area excluded.
	Kikránwáli	576	4,328	...	61	...	4,389	
	Pabbi *reboisement* area	1,458	5,142	...	957	1,458	6,069	Transferred from late Fuel Reserve North and now Jhelum Division
Lahore ...	Kot Lakhpat Rakh ...	485	10,662	...	1,019	...	11,681	Area being unstocked, hence struck off.
	Experiments	...	882	...	...	...	882	
	Rakh Chandra	...	...	...	567	...	567	Failure.
	Total of Rakh Improvement . .	2,574	26,270	...	2,622	1,458	28,892	
	Grand Total ...	20,328	5,95,932	15	23,315	17,127	6,19,247	

Annual Form No. 48.—[*Prescribed.*]

Forest Department, Punjab.

Prosecutions for breaches of Forest Rules, 1880-81.

Forest Division and Civil District.	*Injury to forests by fire.*		*Unauthorized felling or appropriation of wood and minor forest produce.*		*Grazing without permission, or in tracts in which grazing is prohibited.*		*Other offences.*		Total. *Prosecutions.*		Total. *Convictions.*		Remarks.
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Hazara Division.													
Hazára District	30	68	47	88	54	191	6	5	136	352	56	118	
Rawalpindi Division.													
Rawalpindi District	7	51	53	118	131	279	2	16	193	464	112	122	
Jhelum Division.													
Jhelum District	...	...	48	89	5	23	2	3	55	115	41	59	
Shahpur "	...	...	9	65	3	51	8	16	20	132	14	60	
Gujranwala Division.													
Gujrat District	...	...	35	175	13	52	2	7	50	234	43	135	
Gujránwála "	...	...	11	17	...	...	8	21	19	38	15	26	
Siálkot "	...	...	3	3	...	...	1	3	4	6	3	3	
Jhang "	...	...	1	1	...	...	1	1	2	2	1	1	
Pangi Division.													
Chamba State	1	2	...	...	...	...	...	...	1	2	1	2	
Ravi Division.													
Chamba State	2	4	8	9	4	8	...	...	14	21	8	10	
Gurdáspur District	...	...	12	15	...	...	...	...	12	15	4	6	
Lahore "	...	...	...	...	...	...	3	5	3	5	2	2	
Lahore Division.													
Lahore District	...	...	15	32	11	50	5	9	31	91	23	46	
Amritsar "	...	...	1	2	...	...	...	...	1	2	1	1	
Mooltan Division.													
Montgomery District ...	5	3	15	29	...	...	6	15	26	47	19	23	
Mooltan " ...	...	...	1	2	34	54	3	4	38	60	35	53	
Muzaffargarh " ...	3	6	3	4	...	...	1	2	7	12	7	12	
D. G. Khan " ...	2	1	2	2	...	...	2	3	6	6	2	3	
Beas Division.													
Kángra District	34	206	85	128	10	21	15	33	144	388	125	304	
Hoshiárpur "	4	18	3	3	1	5	17	17	25	43	18	31	
Amritsar "	...	...	...	...	...	...	2	4	2	4	1	2	
Gurdáspur "	...	...	...	...	...	...	7	7	7	7	3	3	
Bashahr Division.													
Bashahr	16	77	28	39	...	...	14	15	58	131	27	94	
Phillour Division.													
Jullundur District	...	...	9	...	...	...	1	...	10	...	3	5	
Umballa "	1	1	...	...	...	...	4	4	5	5	4	4	
Simla "	...	...	...	...	6	6	...	...	6	6	6	6	
Total ...	105	437	389	821	272	740	109	190	875	2,188	574	1,131	

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Summary of Revenue of the different Divisions, 1880-81.

Budget Heads, Receipts.	Direction.	Hazára Division.	Rawalpindi Division.	Jhelum Division.	Gujránwála Division.	Pangi Division.	Ravi Division.	Lahore Division.	Mooltan Division.	Beas Division.	Bashahr Division.	Phillour Division.	Total.
I.—Timber and other produce removed from the forests by Government agency—													
a. Timber	...	19,068 10 9	...	30,035 0 6	6,833 8 8	73 13 0	53,636 11 0	...	...	90,914 14 0	16,622 2 6	25,002 3 9	2,42,187 0 2
b. Fire-wood and charcoal ...	...	15 0 0	45,158 4 2	15 0 0	504 0 6	200 9 1	2,937 9 9	11,963 5 0	...	...	...	5 8 0	60,799 4 6
c. Bamboos	...	...	1,291 0 2	...	...	...	...	...	...	11,010 1 8	...	90 0 0	12,391 1 10
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	...	...	333 12 2	...	...	...	...	...	...	...	...	...	333 12 2
II.—Timber and other produce removed from the forests by consumers or purchasers—													
a. Timber	...	1,355 4 0	6,638 12 11	...	...	...	104 0 0	58 8 0	283 7 9	9,331 11 3	99 6 8	24 4 10	17,895 7 5
b. Fire-wood and charcoal ...	...	2,419 10 11	22,907 6 5	16,704 11 8	9 14 0	...	165 10 5	6,382 5 2	57,497 3 7	14 6 3	116 10 0	6,876 7 1	1,13,094 5 6
c. Bamboos	...	...	...	...	...	...	...	...	...	81 15 1	143 7 1	34 13 6	260 3 8
d. Grazing and fodder grass	...	7,527 13 7	7,054 15 0	61,821 3 3	32,353 15 3	481 14 0	...	36,201 3 7	65,794 9 10	5,116 9 7	140 0 3	397 3 0	1,86,389 8 1
e. Other minor produce ...	...	100 12 4	207 11 3	2,797 14 3	11 0 0	...	...	324 0 0	2,266 10 0	20 10 6	...	0 1 6	5,728 11 10
III.—Confiscated drift and waif wood	...	4,097 9 9	...	2 8 0	595 14 0	0 11 6	1,325 2 3	...	...	410 2 6	...	...	6,432 0 0
IV.—Revenue from forests not managed by Government—													
a. Duty on Foreign Timber and other Forest Produce	...	383 10 4	...	228 1 0	1,687 10 1	743 14 4	2,201 0 3	...	...	1,070 12 8	430 5 5	377 15 4	7,123 5 5
b. Revenue from Shared and Private Forests ...	...	734 0 0	...	...	...	...	...	...	...	1,538 4 6	...	...	2,272 4 6
V.—Miscellaneous—													
a. Fines and Forfeitures...	...	47 8 0	5 0 0	...	28 0 0	...	...	1 8 0	35 0 0	588 3 2	13 13 8	0 4 0	719 4 10
b. Refunds...	0 6 0	403 8 11	16 11 10	22 2 0	...	18 8 0	33 3 3	20 13 0	13 3 4	7 5 8	87 5 10	...	623 3 10
c. Other Sources	5 0 0	657 3 0	2,102 9 12	1,228 7 8	188 7 3	1,448 0 0	3,023 15 10	1,062 9 11	3,680 1 3	478 9 9	1,356 7 3	197 8 0	15,428 15 1
Total Receipts ...	5 6 0	36,810 11 7	85,716 3 10	1,12,355 0 4	42,212 5 9	2,967 5 11	63,427 4 9	56,014 4 8	99,570 3 9	1,20,583 10 7	19,009 10 8	33,006 5 0	6,71,678 8 10

Dated Calcutta,
The 23rd June 1881.

A. L. HOME,
Assistant Comptroller General (Forests).

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Summary of Expenditure of the different Divisions, 1880-81.

BUDGET HEADS.	Direction.	Hazára Division.	Rawalpindi Division.	Jhelum Division.	Gujráwála Division.	Pangi Division.	Ravi Division.	Lahore Division.	Mooltan Division.	Beas Division.	Bashahr Division.	Phillour Division.	TOTAL.
A.—Conservancy and Works.													
I.—Timber and other produce removed from the forests by Government Agency:—													
a. Timber	...	6,259 0 6	...	159 4 1	1,283 15 4	4,230 6 10	28,989 5 11	...	...	21,717 15 1	18,122 15 8	4,719 10 6	85,482 9 11
b. Fire-wood and charcoal	...	0 14 0	36,474 7 6	...	...	...	...	3,861 6 0	...	...	...	5 12 6	40,342 8 0
c. Bamboos	...	...	339 10 3	...	...	...	...	...	...	2,644 6 6	...	...	2,984 0 9
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	...	...	130 3 10	...	...	...	...	...	...	...	...	...	130 3 10
II.—Timber and other produce removed from the forests by consumers or purchasers	...	133 9 4	690 14 10	462 10 0	59 0 3	...	12 9 0	70 1 0	493 15 6	0 12 9	...	204 2 8	2,127 11 4
III.—Confiscated Drift and Waif Wood	...	...	...	...	698 15 0	...	...	...	...	215 4 3	...	...	914 3 3
IV.—Revenue from forests not managed by Government:													
a. Duty on foreign timber and other forest produce	...	571 0 11	...	422 6 10	600 7 8	270 0 0	...	...	...	328 0 0	191 14 7	206 9 11	2,590 7 11
b. Revenue from shared and private forests ...	...	...	...	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government ...	...	464 0 2	368 5 6	...	...	31,500 0 0	...	...	...	3,387 8 1	10,000 0 0	...	45,719 13 9
VI.—Live Stock, Stores, Tools and Plant:—													
a. Purchase of cattle ...	...	...	...	...	...	...	...	...	...	...	...	...	...
b. Feed and keep of cattle	...	...	...	...	29 15 7	...	...	449 6 3	...	...	...	97 11 5	577 1 3
c. Stores, tools and plant ...	416 9 0	386 12 9	99 2 3	11 0 0	308 6 2	153 0 0	306 0 0	497 14 4	94 12 0	390 4 9	256 11 6	138 14 0	3,059 6 9
VII.—Communications and Buildings:—													
a. Roads and bridges ...	...	323 13 0	200 0 0	...	...	994 14 3	174 10 0	...	...	71 6 6	2,788 4 0	...	4,552 15 9
b. Buildings	...	1,022 14 3	100 12 0	350 13 6	129 6 3	300 5 8	317 1 8	150 8 3	9 12 0	408 0 5	819 12 3	14 11 6	3,624 1 9
c. Other works	...	...	...	23 14 0	...	...	...	...	...	...	...	...	23 14 0

VIII.—DEMARCATION, IMPROVEMENT AND EXTENSION OF FORESTS :—																			
a. Demarcation	...	...	4,811 3 9	2,685 6 0	7 14 0	...	...	1,006 8 0	875 15 11	365 10 0	536 2 6	157 10 10	21 10 0	...	...	10,468 1 0
b. Compensation for land and rights	...	...	...	...	385 9 0	...	...	...	...	...	203 10 9	...	...	...	...	589 3 9
c. Surveys and working plans	...	...	...	...	...	0 2 6	3 13 6	...	...	98 7 1	50 11 6	...	5 12 0	...	...	158 14 7
d. Plantations	...	...	166 14 4	154 4 0	574 0 9	173 10 0	141 3 6	54 0 0	10,588 15 1	...	...	618 7 5	...	340 5 7	...	12,811 12 8
e. Protection from fire ...	...	...	...	...	...	...	18 14 0	15 6 0	14 6 0	...	...	33 11 0	...	...	...	82 5 0
f. Other works	...	...	112 2 6	...	129 13 10	825 5 6	...	1,430 8 7	380 12 6	2,292 1 7	...	348 10 6	373 7 0	...	...	5,892 14 9
IX.—MISCELLANEOUS :—																
a. Refunds ...	...	...	...	0 0 1	...	306 4 0	...	...	...	1,522 4 6	120 12 0	246 12 0	...	4 15 4		2,200 15 11
b. Law charges ...	...	...	...	380 8 0	...	...	373 4 0	...	...	21 7 5	23 1 0	0 4 0	0 12 4	...	...	799 4 9
c. Other charges ...	...	...	...	...	2 4 0	14 5 0	20 0 0	25 7 6	...	1 6 0	...	68 12 9	6 12 0	5 0 0		143 15 3
TOTAL A.—CONSERVANCY & WORKS	416 9 0		14,252 5 6	41,623 10 3	2,529 10 0	4,429 13 3	39,012 5 9	32,201 0 7	18,022 8 5	3,824 14 10		30,637 14 10	32,587 15 4	5,737 13 5		2,25,276 9 2
B.—Establishments.																
I.—SALARIES :																
a. Conservators ...	18,538 10 8		...	...	...	...	...	...	...	...	...	...	...	...		18,538 10 8
b. Superior Officers ...	6,070 15 5		19,227 11 7	7,200 0 0	6,751 10 8	5,579 0 3	6,600 0 0	12,632 0 4	8,777 6 8	6,150 0 0		14,477 0 0	6,618 5 4	1,400 0 0		1,01,484 2 3
c. Subordinate Forest and Depôt Establishments...	220 0 0		7,763 11 3	7,261 13 7	9,710 3 4	5,635 14 11	4,803 2 10	9,695 0 1	8,757 6 9	8,055 14 9		13,444 1 4	4,905 13 0	1,346 12 6		81,599 14 4
d. Office Establishments ...	6,906 6 0		1,882 10 6	895 14 8	1,546 8 10	565 2 0	1,052 11 10	1,847 0 0	2,277 5 4	1,267 5 6		2,339 14 9	1,658 1 0	319 11 9		22,558 12 2
e. Deputation and Special Allowances ...	...	...	...	...	...	...	...	161 4 8	...	...		...	...	...		161 4 8
II.—TRAVELLING ALLOWANCES :—																
a. Conservators ...	1,629 0 0		...	...	...	...	...	...	...	...		...	...	...		1,629 0 0
b. Superior Officers ...	1,027 10 5		1,806 9 7	1,355 8 0	1,043 12 1	1,661 14 8	1,418 1 5	3,113 0 0	2,001 12 0	1,346 1 0		1,712 1 1	2,293 4 0	526 15 0		19,306 9 3
c. Subordinate Forest and Depôt Establishments...	37 12 4		740 1 3	385 4 9	703 0 2	491 2 11	693 4 3	864 0 1	770 1 9	435 6 4		1,791 14 6	332 11 5	97 12 3		7,405 8 0
d. Office Establishments ...	1,198 0 3		545 8 3	207 2 1	293 2 8	139 9 2	202 2 7	511 6 5	190 2 3	202 0 1		443 4 6	550 15 10	79 2 9		4,562 8 10
III.—CONTINGENCIES :—																
a. Stationery ...	246 3 7		80 0 0	171 7 6	125 12 11	56 6 8	52 11 0	79 14 3	118 3 0	91 10 8		236 11 10	70 12 0	33 3 3		1,363 0 8
b. Carriage of Tents and Records ...	172 10 4		218 10 0	147 4 0	172 0 3	80 14 0	239 6 7	242 3 9	49 0 9	51 10 9		458 11 2	113 0 0	65 9 0		2,011 9 7
c. Rents, Rates and Taxes...	960 0 0		374 6 2	360 0 0	345 8 9	2 0 0	...	47 6 0	660 0 0	360 0 0		100 0 0	138 9 7	...		3,347 14 6
d. Pay of Police Guards ...	...	...	...	...	...	...	...	...	...	...		...	...	...		...
e. Official Postage ...	544 4 0		154 11 0	203 15 6	222 13 6	149 2 0	60 0 0	115 12 6	229 14 0	268 14 6		389 6 6	112 0 0	56 4 0		2,507 3 6
f. Sundries ...	480 3 3		267 4 11	116 14 5	187 2 6	183 5 3	465 1 4	232 4 2	366 4 10	65 7 0		409 5 2	778 9 11	63 11 9		3,615 10 6
TOTAL B., ESTABLISHMENTS ...	38,031 12 3		33,061 6 6	18,305 4 6	21,164 11 8	14,544 7 10	15,586 9 10	29,541 4 3	24,197 9 4	18,294 6 7		35,802 6 10	17,572 2 1	3,989 2 3		2,70,091 3 11
GRAND TOTAL, EXPENDITURE ...	38,448 5 3		47,313 12 0	59,928 11 9	23,694 5 8	18,974 5 1	54,598 15 7	61,742 4 10	42,220 1 9	22,119 5 5		66,440 5 8	50,160 1 5	9,726 15 8		4,95,367 13 1

DATED CALCUTTA,

A. L. HOME,

Annual Form No. 50.—[*Prescribed.*]

Forest Department Punjab.

Account Current for the year 1880-81.

Dr.

To Cash Balance on 1st April 1880.		...	...	...	9,770	13	3
„ *Revenue, as per Annual Summary* ...		...	...	...	6,71,678	8	10
„ *Service Funds*—							
Civil Fund, Ordinary, Bengal ...		80	0	0			
Military Fund, Bengal ...		243	0	0			
Military Fund, Madras ...		657	14	0			
Military Orphan Fund, Bengal ...		210	9	0			
Uncovenanted Service Family Pension Fund, Bengal		1,933	4	1			
					3,124	2	1
„ *Deposits* ...		...	...	...	14,773	13	0
„ *Forest Cash Remittances (Local)*—							
Forest cheques drawn ...		4,78,482	1	9			
Inter-Divisional Transfers ...		11,682	14	11			
					4,90,165	0	8
„ *Advances Recoverable* ...		...	...	...	2,13,796	10	2
„ *Suspense* ...		...	...	...	231	5	4
„ *Account current (other Governments)*—							
Government of Bengal ...		576	10	8			
Government of North Western Provinces and Oudh		3,208	4	8			
Government of Bombay ...		1,150	...	...			
					4,934	15	4
„ *Inter-Departmental Transfers*— ...							
Public Works Department, Punjab Northern State Railway ...		31	15	0			
Ditto Other Branches ...		219	14	6			
Military Department, Bengal ...		123	15	4			
Civil Departments—							
Mathematical Instrument Department	201-3-0						
Jails	1,705-10-7						
Miscellaneous...	897-0-0	2,803	13	7			
Post Office Department ...		106	0	0			
					3,285	10	15
Total ...		...	...	...	14,11,760	15	1

Cr.

By Expenditure, as per Annual Summary ...		...	...	...	4,95,367	13	1
„ *Deposits* ...		...	...	...	8,826	7	0
„ *Forest Cash Remittances (Local)*—							
Remittances to Treasuries ...		6,33,868	12	8			
Inter Divisional Transfers ...		11,660	11	11			
					6,45,529	8	7
„ *Advance Recoverable* ...		...	...	...	2,07,175	1	5
„ *Suspense* ...		...	...	...	103	5	10
„ *Inter Departmental Transfers*— ...							
Public Works Department, P. N. S. Railway ...		31,802	10	6			
Do. I. V. S. Do. ...		1,398	1	10			
Do. Military Works ...		4,841	4	4			
Do. Other Branches ...		5,259	10	4			
Military Department, Bengal ...		1,678	7	7			
Civil Departments— ...							
Jails	74-2-11 ...						
Rewards for passing in Oriental Languages	860-0-0 ...						
Miscellaneous	4,35-6-0 ...	1,370	8	11			
					46,350	11	6
„ *Cash Balance on 31st March* 1881 ...					8,407	15	8
Total ...		...	...	...	14,11,760	15	1

Dated Calcutta,
The 23rd June 1881.

A. L. HOME,
Assistant Comptroller General (Forests).

Annual Form No. 51.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Statement of Outstandings and Liabilities on account of Contractors and Disbursers, 1880-81.

Division.	Department Debtor.			Department Creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
				Advances Recoverable.					
Direction ...		3,894 0 8	3,894 0 8	83 5 4	3,810 11 4	3,894 0 8	...	...	
Hazára (late Jhelum) Division ...		20,712 5 2	20,712 5 2	310 14 10	20,401 6 4	20,712 5 2	...	...	
Rawalpindi Division ...		43,262 7 0	43,262 7 0	1,367 15 5	46,319 6 6	47,687 5 11	4,424 14 11	...	
Jhelum (late Fuel Reserve North) Division.		3,966 15 3	3,966 15 3	...	4,053 14 0	4,053 14 0	86 14 9	...	
Gujranwala } (late Chenab) Divn.		5,104 10 3	5,104 10 3	2,463 11 7	5,771 7 6	8,235 3 1	3,130 8 10	...	
Pangi } (late Chenab) Divn. ...		13,566 0 5	13,566 0 5	1,977 9 10	13,673 14 9	15,651 8 7	2,085 8 2	...	
Ravi Division ...		34,185 3 0	34,185 3 0	3,054 10 9	33,551 8 7	36,606 3 4	2,421 0 4	...	
Lahore (late Plantation) Division...		23,418 4 5	23,418 4 5	4,327 5 4	20,307 7 0	24,634 12 4	1,216 7 11	...	
Mooltan (late Fuel Reserve South) Division.		3,447 15 1	3,447 15 1	405 4 1	3,501 4 11	3,906 9 0	458 9 11	...	
Beas Division ...		53,991 8 8	53,991 8 8	9,424 13 0	47,182 0 5	56,606 13 5	2,615 4 9	...	
Bashahr } (late Sutlej) Division...		3,956 8 0	3,956 8 0	1 15 6	3,954 8 6	3,956 8 0	...	...	
Phillour } (late Sutlej) Division...		4,290 12 3	4,290 12 3	...	4,647 7 7	4,647 7 7	356 11 4	...	
Total Advances Recovered ...		2,13,796 10 2	2,13,796 10 2	23,417 9 8	2,07,175 1 5	2,30,592 11 1	16,796 0 11	...	
				Final Payments.					
Lahore (late Plantation) Division		...	...	582 0 0	...	582 0 0	582 0 0	...	
Mooltan (late Fuel Reserve South) Division.		...	...	190 15 0	...	190 15 0	190 15 0	...	
Total Final Payments ...		...	...	772 15 0	...	772 15 0	772 15 0	...	
Grand Total ...		2,13,796 10 2	2,13,796 10 2	24,190 8 8	2,07,175 1 5	2,31,365 10 1	17,568 15 11	...	

DATED CALCUTTA,
The 23rd June 1881.

A. L. HOME,
Assistant Comptroller General (Forests).

Annual Form No. 52.—[*Prescribed.*]

Forest Department, Punjab.

Statement of Outstandings on account of Revenue, 1880-81.

Division.	Outstandings at commencement of year.			Value of sales and other revenue during year.			Total.			Amount realized during year.			Balance due to the Department at end of year.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Direction	...	...	...	5	6	0	5	6	0	5	6	0	...	...	...
Hazára Division	831	13	5	35,978	14	2	36,810	11	7	36,810	11	7	...	...	...
Rawalpindi Division	...	...	...	85,848	3	10	85,848	3	10	85,716	3	10	132	0	0
Jhelum ditto	13,360	6	10	1,02,507	8	1	1,15,867	14	11	1,12,355	0	4	3,512	14	7
Gujránwála ditto	20,282	3	11	45,512	11	0	65,794	14	11	49,466	4	9	16,328	10	2
Pangi ditto	...	...	...	2,967	5	11	2,967	5	11	2,967	5	11	...	...	...
Ravi ditto	1,349	2	6	63,127	4	9	64,476	7	3	64,166	14	0	309	9	3
Lahore ditto	10,308	14	5	57,287	13	3	67,596	11	8	56,445	4	8	11,151	7	0
Mooltan ditto	9,238	9	10	97,941	15	4	1,07,180	9	2	99,623	9	9	7,556	15	5
Beas ditto	3	6	0	1,21,030	4	7	1,21,033	10	7	1,20,583	10	7	450	0	0
Bashahr ditto	...	...	...	19,009	10	8	19,009	10	8	19,009	10	8	...	...	...
Phillour ditto	443	0	8	37,976	8	9	38,419	9	5	33,014	5	0	5,405	4	5
Total ...	55,817	9	7	6,69,193	10	4	7,25,011	3	11	* 6,80,164	7	1	† 44,846	12	10

	Rs.	A.	P.
* Revenue as per Form No. 49 ...	6,71,678	8	10
Written off under Government sanction	8,485	14	3
Total ...	6,80,164	7	1
† From Public Departments ...	5,088	8	0
„ other purchasers ...	39,758	4	10
Total ...	44,846	12	10

Dated Calcutta,
The 23rd June 1881.

A. L. HOME,
Assistant Comptroller General (Forests).

Form No. 53.

Forest Department, Punjab.

Statement of Trees felled during the year 1880-81.

Division.	Forest Range.	Locality.	Description of Trees.	On hand from previous year.	Felled during current year	Total.	Disposed of during current year.		Closing balance.	Remarks.
				No.	No.		How disposed of.	No.	No.	
Hazara ...	Dungagali	Various	Blue pine	48	12	60	Sawn into scantlings ..	55	...	
	Ditto	Ditto		...	4	4	Sold	9	...	
	Ditto	Ditto	Kahin	...	13	13	Sawn into scantlings ...	13	...	
	Ditto	Ditto	Paluddar	...	148	148	Ditto ...	112	1	
	Ditto	Ditto					Sold	35		
	Ditto	Ditto	Bankhor	...	15	15	Sawn into scantlings...	15	...	
	Ditto	Ditto	Turkun	...	1	1	Ditto ...	1	...	
	Ditto	Ditto		...	1	1	Sold	1	...	
	Ditto	Ditto	Kálákat	...	5	5	Sawn into scantlings...	5	...	
	Ditto	Ditto	Barungi	...	2	2	Sold	2	...	
	Ditto	Ditto	Chil	...	5	5	Do.	5	...	
			Total ...	48	206	254		253	1	
Pangi ...	Sánch	Rangi Forest	Deodár	...	204	204	Logged and launched...	204	...	
	Ditto	Ditto	Ditto	...	118	118	Sawn into sleepers ...	4	114	
	Ditto	Barra Bambal Forest ...	Ditto	...	20	20	...	...	20	
	Ditto	Chak Mandi	Ditto	...	105	105	...	...	105	
	Ditto	Chao Forest	Ditto	...	94	94	Sawn into sleepers ...	94	...	
	Ditto	Ajog do.	Ditto	...	452	452	Logged	452	...	
	Kilar	Sid-ka-Dera Forest ...	Ditto	...	9	9	Sawn into sleepers ...	9	...	
	Dharwas	Luj Forest	Ditto	...	21	21	Ditto ...	21	...	
			Total ...	...	1,023	1,023		784	239	
Ravi	Kalátop	Kálátop	Deodár	63	45	108	Sawn into scantlings...	88	20	
	Ditto	Ditto	Inferior pines	...	25	25	Ditto ...	25	...	
	Ditto	Kainthli	Dead and dying deodár ...	...	108	108	Logged for sleepers ...	108	...	
	Ditto	Bakloh	Chil	*60	23	83	Sawn into scantlings...	83	...	* Omitted by Divisional Officer in last year's statement.
	Shahpur Kundi ...	Shahpur Kundi	Do.	...	3	3	Sold	3	...	
	Western Range ...	Salote Forest	Deodár	...	200	200	Logged	200	...	
	Ditto ...	Chad Bhent	Ditto	...	125	125	...	...	125	
	Ditto ...	Suiragulla	Ditto	...	50	50	Logged	45	5	
	Ditto ...	Khunna	Ditto	...	100	100	Ditto ...	19	81	
	Ditto ...	Majaor	Ditto	...	50	50	...	...	50	
	Ditto ...	Topi	Ditto	...	350	350	...	...	350	
	Ditto ...	Kasnalla	Ditto	...	125	125	...	...	125	
	Ditto ...	Bhandal, &c.	Ditto	...	292	292	Logged for sleepers ...	292	...	Windfall.
	Eastern Range ...	Bassu	Ash	...	2	2	Sawn into scantlings...	2	...	
			Total ...	123	1,498	1,621		865	756	

Form No. 53.—*concluded.*

Division.	Forest Range.	Locality.	Description of Trees.	On hand from previous year.	Felled during current year.	Total.	Disposed of during current year.		Closing balance.	Remarks.
				No.	No.		How disposed of.	No.	No.	
Beas	Dera	Majin	Chil	...	104	104	Sawn into karis ...	104	...	
			Total ...	...	104	104		104	...	
Bashahr ...	Upper Kunáwar ...	Ramni	Blue pine	540	...	540	Logged	540	...	
	Ditto	Do.	Deodár	...	40	40	Ditto	40	...	Windfall.
	Ditto	Jani	Blue pine	94	...	94	Ditto	94	...	
	Ditto	Do.	Deodár	16	...	16	Ditto	16	...	
	Ditto	Tickfu	Ditto	23	15	38	Ditto	38	...	
	Ditto	Phinla	Ditto	...	161	161	Ditto	161	...	
	Ditto	Junpan	Ditto	...	27	27	Ditto	27	...	Windfall.
	Ditto	Tiuden	Ditto	...	728	728	Ditto	532	196	
	Ditto	Wasan kan	Ditto	...	386	386	Ditto	156	230	
	Ditto	Baspa Valley	Ditto	...	260	260	Ditto	260	...	Windfall.
	Ditto	Ralli and Sipi, &c. ...	Ditto	...	425	425	Ditto	425	...	Ditto.
	Southern Bashahr...	East Nachar	Ditto	...	10	10	Ditto	10	...	
	Ditto ...	Panwi	Ditto	...	105	105	Ditto	105	...	Windfall.
			Total ...	673	2,157	2,830		2,404	426	

ABSTRACT.

			Deodár, green	102	3,368	3,470		2,049	1,421	
			Do., dead and fallen ...	...	1,257	1,257		1,257	...	
			Other pines	742	324	1,066		1,065	1	
			Miscellaneous trees	...	39	39		39	...	
			Total ...	844	4,988	5,832		4,410	1,422	

Form No. 54.

Forest Department, Punjab.

Statement of Logs, Sleepers and Scantlings cut and exported during the year 1880-81.

Division.	Forest Range.	Locality.	Description of timber and scantlings.	On hand from previous year.		Cut during current year.		Total.		Disposed of during current year.			Closing balance	
				No.	C. ft.	No.	C. ft.	No.	C. ft.	How disposed of.	No.	C. ft.	No.	C. ft.
Hazara ...	Kághán ...	Suka Kassi	Deodar logs ...	604	...	...	...	604	...	...	...	...	604	...
		Dhannu	Ditto ...	53	...	...	...	53	...	Launched ...	53	...	...	...
		Various places ...	Ditto ...	4,889	...	...	...	4,889	...	...	...	...	4,889	...
		Dungágali ...	Scantlings ...	...	...	14,781	15,697	14,781	15,697	Sold	14,781	15,697	...	...
		Ditto	Shingles	...	...	323,300	...	323,300	...	Do.	323,300	...	...	...
			Total Hazára ...	5,546	...	338,081	...	343,627	...		338,134	...	5,493	...
Pangi ...	Sanch	Rangi Forest ...	Deodar logs	...	...	768	15,929	768	15,929	Launched ...	768	15,929	...	...
	Do.	Ajog do.	Ditto	...	...	1,569	...	1,569	...	...	...	...	1,569	...
	Do.	Chao do.	Deodar sleepers ...	...	...	1,661	...	1,661	...	Launched ...	20	...	1,641	...
	Do.	Rangi do.	Ditto ...	...	...	156	...	156	...	...	...	...	156	...
	Killar ...	Sid-ka-Dera Forest ...	Ditto ...	...	...	205	...	205	...	...	...	...	205	...
	Darwas ...	Luj do. ...	Ditto ...	...	...	400	...	400	...		...	...	400	...
			Total Pangi ...	...	...	4,759	...	4,759	...		788	...	3,971	...
Ravi ...	Kálátop ...	Kainthli	Deodar logs	...	...	312	...	312	...	Sawn into sleepers	312	...	...	...
	Do. ...	Ditto	Broad gauge sleepers	...	...	1,250	...	1,250	...	...	...	...	1,250	...
	Do. ...	Kálátop	Deodar scantlings ...	537	580	2,780	2,965	3,317	3,545	Sold	1,961	2,247	1,356	1,298
	Do. ...	Ditto	Tos ditto ...	280	447	1,139	1,083	1,419	1,530	Do.	1,164	1,246	255	284
	Do. ...	Ditto	Oak ditto ...	79	48	...	...	79	48	...	...	...	79	48
	Bakloh ...	Bakloh	Chil ditto ...	...	...	215	282	215	282	Sold	30	34	185	248
	Churrah ...	Hungari, Bhandal and Chattri	Broad gauge sleepers	4,807	...	6,294	...	11,101	...	Launched	10,601	...	500	...
	Do. ...	Ditto ...	Narrow ditto ...	...	...	1,466	...	1,466	...	Do.	1,466	...	...	...
	Western Range	Salote Forest ...	Deodar logs	...	...	1,150	...	1,150	...	Do.	600	...	550	...
	Chamba ...	Suiragulli	Ditto	...	...	239	...	239	...	Do.	125	...	114	...
	Churrah ...	Khunni	Ditto	...	...	110	...	110	...	...	...	...	110	...
	Do. ...	Hungari, Bhandal and Chattri	Ditto	...	...	1,769	...	1,769	...	Sawn into sleepers	1,769	...	...	...
	Do. ...	Bassu	Ditto	...	...	50	...	50	...	Sold	50	...	...	...
			Total Rávi ...	5,703	...	16,774	...	22,477	...		18,078	...	4,399	...

Form No. 54.—concluded.

Division.	Forest Range.	Locality.	Description of timber and scantlings.	On hand from previous year.		Cut during current year.		Total.		Disposed of during current year.			Closing balance.	
				No.	C. ft.	No.	C. ft.	No.	C. ft.	How disposed of.	No.	C. ft.	No.	C. ft.
Beas	Kulu	Sandhar	Deodar scantlings	3,444	14,910	...	...	3,444	14,910	Launched	1,672	6,691	1,772	8,219
		Bagrari	Broad gauge sleepers	1,486	5,183	...	...	1,486	5,183	Ditto	841	2,918	645	2,265
		Do.	Other scantlings	239	298	...	...	239	298	Ditto	143	189	96	109
		Bakriala Nal	Broad gauge sleepers	4,511	15,652	...	...	4,511	15,652	Ditto	1,811	6,284	2,700	9,368
		Ditto	Other scantlings	278	330	...	...	278	330	Ditto	145	208	133	122
		Ballo	Broad gauge sleepers	728	2,525	...	...	728	2,525	Ditto	675	2,342	53	183
		Do.	Other scantlings	42	48	...	...	42	48	Ditto	19	24	23	24
	Dera	Majin	Ditto	742	2,259	1,088	3,623	1,830	5,882	Sold	1,821	5,847	9	35
	Lower River	River Islands	Broad gauge sleepers	19	65	86	298	105	363	Launched	105	363	...	...
		Ditto	Other scantlings	105	328	335	1,055	440	1,383	Ditto	440	1,383	...	...
			Total Beas	11,594	41,598	1,509	4,976	13,103	46,574		7,672	26,249	5,431	20,325
Bashahr	Bashahr	Tickru	Deodar logs	700	...	309	...	1,009	...	Launched	1,009	...	...	...
		Phinla	Ditto	950	...	1,223	...	2,173	...	Ditto	2,173	...	...	...
		Junpan	Ditto	160	...	...	...	160	...	Ditto	160	...	...	...
		East Nachar	Ditto	250	...	92	...	342	...	Ditto	342	...	...	...
		Tiuden	Ditto	...	...	2,125	...	2,125	...	...	...	...	2,125	...
		Wasan Kan	Ditto	...	...	703	...	703	...	...	...	...	703	...
		Ramni	Ditto	...	...	160	...	160	...	...	...	...	160	...
		Lipa	Ditto	...	...	2,402	...	2,402	...	Launched	2,302	...	100	...
		Panwi	Ditto	...	...	376	...	376	...	...	...	...	376	...
		Buspa Valley	Ditto	1,348	...	1,914	...	3,262	...	Launched	3,262	...	...	...
		Jani	Ditto	1,120	...	75	...	1,195	...	Ditto	1,113	...	82	...
		Kum Kumi	Blue pine	...	...	...	...	...	...	...	...	...	...	...
		Junpan	Ditto	...	...	...	...	...	...	...	...	...	...	...
		Ramni	Ditto	2,400	...	1,400	...	3,800	...	Launched	2,654	...	1,146	...
		Jani	Ditto	900	...	564	...	1,464	...	Ditto	1,374	...	90	...
		Do.	Ditto	...	...	136	...	136	...	Ditto	86	...	50	...
			Total Bashahr	7,828	...	11,479	...	19,307	...		14,475	...	4,832	...

				ABSTRACT.										
			Deodar logs	10,074	..	15,346	...	25,420	...		14.038	...	11,382	
			Blue pine logs ...	3,800	...	2,100	...	5 400	...		4,114	...	1,286	...
			Broad gauge sleepers	11,551	..	10,052	...	21,603	..		17,053	...	7,550	...
			Narrow do. do. ..		...	1,466	...	1 466	...		1,466	..	.	...
			Deodar scantlings ...	3,981	...	2,780	...	6,761	.		3,633	...		
			Other d tto ...	1,765	...	17,558	...	19,323	...		18 543		3.129	..
			Shingles ...	..	...	323,300	...	323,300	..		323,300	.	780	...
			Total ..	30,671	...	372,602	...	403,273	..		379,147	...	24,126	...
				FUEL FELLINGS.										
LAHORE ...	Chánga Mánga ...	Blocks I, II, III & IV	Mixed	...	214.504	...	591,682	...	876,186	Sold ... / Less on measurement	...	684,382 / 31,346		160,458
	Ditto ...	Rukhs	Pieces	...	...	22	...	22	.	Sold ..	21	...	1	...
	Lahore Sailaba ...	Shahderah	Sissu	...	..	...	11,150	..	11,150	Do.	...	850	...	10,300
	Ditto ..	Jugián	Do.	..	* 786	...	*114	...	900	Do.	...	900	..	.
	Ditto ...	Chung	Do	..	10,930	...	121	...	11,051	Do.	...	11,051	..	..
	Ditto ...	Jhoke	Kikar pieces ..	...	...	12	...	12	...	...	.	...	12	...
	Lahore Tahsil ...	Tera and Rodeshah ..	Mixed	...	...	...	1,666	...	1,666	..	...	1,666	...	...
	Ditto ...	Kote Lakhpat .	Do.	.	..	...	60	...	60	...	...	60	...	...
			Total Lahore .	...	296,220	34	604,793	34	901,013		21	730,255	13	170,758
PHILLOUR ...	Detached Circle .	Phillour	Mixed	...	41,200	...	...	...	41,200	Sold ...	...	41,200	.	...
		Do.	Kikar	...	...	...	26,000	...	26,000	Do. ..	...	26.000	...	...
		Ludhiána	Sissu	..	...	...	3,400	...	3,400	Do. ...	...	3.400	...	...
			Total Phillour ...	...	41,200	...	29,400	...	70,600		...	70,600	...	...

* This was omitted by Divisional Officer in last year's return.

Annual Form No. 55.—[*Prescribed.*]

Forest Department, Punjab

Statement of Timber and other produce brought to depôt from the different Forest Divisions, 1880-81.

Division	Forest	Description of timber, &c	No. of Pieces	No. of Cubic feet	Total of each Division Pieces	Total of each Division Cubic feet	Remarks.
		I.—TIMBER.					
Hazara ...	Dungágali ...	Scantlings	14,851	15,914	14,851	15,914	
Rawalpindi .	Reserves .	Inferior pines	81	..	81	...	
Jhelum	Kágban ...	Deodar logs .. .	701	18,100			
		Other pine logs...	214	3,162			
		Fancy wood	1	6			
		Scantlings	6	11			
		Scraps and pieces	31	316	953	21,795	
Gujranwala ...	Pangi .	Deodar logs	798	11 758			
	Do.	Other pine logs ..	259	3,237			
	Do ..	Broad gauge sleepers ...	4	14			
	River	Ditto ditto .	134	473			
	Do	Narrow gauge sleepers ...	5	13			
	Do	Scantlings	390	256			
	Do. ...	Scraps and pieces ...	762	6,675	2,352	22,406	
Ravi	Upper Ravi ...	Deodar logs	4,149	70,113			
	Do .	Other pine logs ...	3,002	16 106			
	Do	Broad gauge sleepers ...	3 711	10,625			
	Do. .	Scraps and pieces	5,803	33,240			
	Do	Fancy wood	40	50			
	Do ...	Scantlings ..	3 287	3 128			
	Kálátop ...	Ditto	3,919	4,046			
	Dakloh ...	Ditto ...	215	232	24,226	167,580	
Beas	Kulu .	Deodar logs ..	968	27 384			
		Pine " ...	1,100	24,927			
		Walnut " .	5	39			
		Maple "	14	109			
		Broad gauge sleepers .	19,478	67 588			
		Other scantlings ...	3,224	7,073			
		Scraps and pieces	158	344	24 917	128,064	
Phillour ...	Bashahr ...	Deodar logs ..	6,152	162 787			
		Other pine logs	2,198	39,219			
		Broad gauge sleepers .	24	84			
		Narrow ditto .	453	672			
		Scraps and pieces ...	110	2.155	8 937	140,917	
		Grand Total ...	.	...	76,247	496 676	
		II.—OTHER PRODUCE					
Hazara ...	Dungágali .	Shingles ...	323,300		323,300		
Rawalpindi ...	Reserves .	Fuel, maunds ...	93 680				
		Charcoal, maunds ..	6,329		100,009	...	Maunds
		Bamboos ...	15,568		15,568	...	Pieces
Lahore	Chánga Mánga ..	Mixed fire-wood .	...	591,682			
	Shahdara	Sissu ditto ..		11 150			
	Tera and Rodeshah	Mixed ditto . .		1 666			
	Koto Lakhpat	Ditto ditto .		60			
	Rukh Bhaneki ...	Kikar ditto	1				
	Do Jhoke .	Ditto ditto ..	12		13	604,558	
Beas	Karnpur and Dhantal	Bamboos ...	656,885	.	656,885	..	
Phillour		Ditto . .	1 938	...	1,938	...	

Annual Form No. 56.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Account of Timber and other Produce, 1880-81.

PARTICULARS.	PIECES. No.	PIECES. Cub. ft.	TOTAL. No.	TOTAL. Cub. ft.
BY BALANCE AT COMMENCEMENT OF YEAR.				
Jhelum Division.				
Deodar logs	849	39,923		
Other pine logs	252	6,514	1,101	46,437
Gujránwála Division.				
Deodar logs	1,674	24,876		
Other pine logs	10	143		
Broad gauge sleepers ...	65	203		
Narrow ditto ...	129	172		
Pencil Cedar	9	43		
Tún	4	21		
Ash	5	21		
Walnut	18	50	1,915	25,529
Ravi Division.				
Broad gauge sleepers ...	2,255	7,824		
Other scantlings	896	1,077	3,151	8,901
Beas Division.				
Deodar logs	3	97		
Other pine logs	37	648		
Broad gauge sleepers ...	69	240		
Other scantlings	516	1,436		
Walnut logs	20	172		
Maple logs	23	132		
Boxwood	15	12		
Scraps and pieces ...	28	91	711	2,768
Phillour Division.				
Deodar logs	3,605	38,531		
Other pine logs	480	6,109		
Broad gauge sleepers ...	83	288		
Narrow ditto ...	640	960		
Scraps and pieces ...	30	...	4,838	45,888
Carried over ...	...	...	11,716	129,523

PARTICULARS.	PIECES. No.	PIECES. Cub. ft.	TOTAL. No.	TOTAL. Cub. ft.
REMOVED BY PURCHASERS.				
Hazára Division.				
Scantlings	14,793	15,735	14,793	15,735
Jhelum Division.				
Deodar logs	1,491	57,007		
Other pine logs	455	9,522		
Scraps and pieces ...	31	316	1,977	66,845
Gujránwála Division.				
Deodar logs	706	10,192		
Other pine logs	267	3,329		
Broad gauge sleepers ...	199	656		
Narrow ditto ...	5	13		
Scantlings	390	256		
Scraps and pieces ...	762	6,675	2,329	21,121
Ravi Division.				
Deodar logs	4,149	70,113		
Other pine logs	3,002	46,106		
Broad gauge sleepers ...	2,423	8,481		
Fancy wood	40	50		
Scantlings	6,442	6,655		
Scraps and pieces ...	5,803	33,230	21,859	164,635
Beas Division.				
Deodar logs	744	20,827		
Other pine logs	1,137	25,575		
Broad gauge sleepers ...	19,274	66,880		
Other scantlings	2,982	7,337		
Scraps and pieces ...	156	371	24,293	120,990
Phillour Division.				
Deodar logs	5,463	72,785		
Other pine logs	831	11,654		
Broad gauge sleepers ...	83	288		
Scraps and pieces ...	115	2,155	6,492	86,882
Carried over ...	...	...	71,743	476,208

Annual Form No. 56.—[*Prescribed*]—continued.

Particulars.	Pieces. No.	Pieces. Cub. ft.	Total. No.	Total. Cub. ft.
Brought forward ...	...	...	11,716	129,523
Received during the year.				
Hazára Division, scantlings	14,851	15,014	14,851	15,914
Rawalpindi Division, inferior pines	81	...	81	
Jhelum Division.				
Deodar logs	701	18,300		
Other pine logs	214	3,162		
Scantlings	6	11		
Fancy wood	1	6		
Scraps and pieces ...	31	316	953	21,795
Gujránwála Division.				
Deodar logs	798	11,758		
Other pine logs	259	3,237		
Broad gauge sleepers ...	138	467		
Narrow ditto ...	5	13		
Scantlings	390	256		
Scraps and pieces ...	762	6,675	2,352	22,406
Rávi Division.				
Deodar logs	4,149	70,113		
Other pine logs	6,002	46,106		
Broad gauge sleepers ...	3,711	10,625		
Fancy wood	40	50		
Scantlings	7,421	7,456		
Scraps and pieces ...	5,803	33,230	24,126	167,580
Beás Division.				
Deodar logs	968	27,384		
Other pine logs ...	1,100	24,927		
Broad gauge sleepers ...	19,478	67,588		
Other scantlings ...	3,224	7,673		
Walnut logs	5	39		
Maple "	14	109		
Scraps and pieces ...	158	344	24,947	128,064
Phillour Division.				
Deodar logs	6,152	102,787		
Other pine logs ...	2,198	35,219		
Broad gauge sleepers ...	24	84		
Narrow ditto ...	453	672		
Scraps and pieces ...	110	2,155	8,937	140,917
Carried over ...	...	...	87,963	626,199

Particulars.	Pieces. No.	Pieces. Cub. ft.	Total. No.	Total. Cub. ft.
Brought forward ...	...	...	71,743	476,208
Cut into sleepers, &c.				
Phillour Division.				
Deodar logs	108	1,285	108	1,285
Lost and used by the Department.				
Hazára Division.				
Scantlings	41	59	41	59
Rawalpindi Division.				
Inferior pines	81	...	81	
Beás Division.				
Broad gauge sleepers ...	11	38		
Other scantlings ...	17	36		
Scraps and pieces ...	30	64	58	138
Phillour Division.				
Deodar logs	36	446	36	446
Brought on stock by mistake, returned to owners.				
Gujránwála Division.				
Other pine logs ...	2	51	2	51
Shown in last year's return by mistake.				
Phillour Division.				
Other pine logs ...	29	622	29	622
Carried over ...	...	...	72,098	478,809

Annual Form No. 56.—[*Prescribed*]—continued.

Particulars.	Pieces. No.	Pieces. Cub ft.	Total. No.	Total. Cub. ft.
Brought forward ...	...	...	87,963	626,199
Total ...	...	...	87,963	626,199

Particulars.	Pieces. No.	Pieces. Cub ft.	Total. No	Total. Cub. ft.
Brought forward ...	...	...	72,098	478,809
BALANCE AT CLOSE OF THE YEAR.				
Hazára Division—				
Scantlings ...	17	120	17	120
Jhelum Division—				
Deodar logs ...	59	1,216		
Other pine logs ..	11	154		
Fancy wood ...	1	6		
Scantlings ...	6	11	77	1,387
Gujránwála Division—				
Deodar logs ..	1,766	26,442		
Broad-gauge sleepers ...	4	14		
Narrow " " ..	129	172		
Pencil Cedar, Slabs ...	9	49		
Tún ...	4	21		
Ash ...	6	21		
Walnut ...	18	50	1,936	26,763
Ravi Division—				
Broad-gauge sleepers ...	3,543	9,968		
Scantlings ...	1,875	1,878	5,418	11,846
Beas Division—				
Deodar logs ...	227	6,654		
Walnut " ...	25	151		
Maple " ...	37	241		
Broad-gauge sleepers ...	262	910		
Other scantlings ...	741	1,736		
Boxwood ...	15	12	1,307	9,704
Philour Division—				
Deodar logs ...	4,150	66,802		
Other Pine logs ...	1,818	29,052		
Broad-gauge sleepers ...	24	84		
Narrow " " ...	1,093	1,632		
Scraps and pieces ...	25	...	7,110	97,570
Total ...	...	...	87,963	626,199

Abstract of Timber operations during 1880-81.

Balance in hand at commencement of year ...	...	...	11,716	129,523
Received during the year...	...	...	76,247	496,676
Total ...	...	...	87,963	626,199

Removed by purchasers ...	...	...	71,743	476,208
Cut into sleepers, &c. ...	...	...	108	1,285
Lost and used by the Department ...	...	...	216	643
Returned to owners ...	...	...	2	51
Erroneously shown in last year's return ...	...	...	29	622
Balance at close of the year ...	...	...	15,865	147,390
Total ...	...	...	87,963	626,199

Annual Form No. 56.—[*Prescribed*]—continued.

Particulars.	Pieces. No.	Pieces. Cub. ft.	Total. No.	Total. Cub. ft.
			Firewood and Charcoal.	
Balance in hand at commencement of year				
Rawalpindi Division— Firewood, Mds. ...	635	...	635	...
Received during the year.				
Rawalpindi Division— Firewood ...	93,680	...	...	...
Do. Charcoal, Mds. ...	6,329	...	100,009	...
Lahore Division— Firewood ...	13	604,558	...	...
Do. Omitted in last year's account ...	...	296,455	13	901,013
Phillour Division— Firewood ...	...	...	...	...
Omitted in last year's account ...	...	41,200	...	41,200
Total ...	...	...	100,657	942,213
			Bamboos.	
Balance in hand at commencement of year				
Rawalpindi Division ...	300	...	300	...
Beas Division ...	6,653	...	6,653	...
Received during the year.				
Rawalpindi Division ...	15,568	...	15,568	...
Beas Division ...	656,885	...	656,885	...
Phillour Division ...	1,938	...	1,938	...
Total ...	...	...	681,344	...
			Shingles.	
Balance in hand at commencement of year.				
Hazára Division ...	...	...	...	...
Received during the year	...	...	...	...
Hazára Division ...	323,300	...	323,300	...
Total ...	...	...	323,300	...

Particulars.	Pieces. No.	Pieces. Cub. ft.	Total. No.	Total. Cub. ft.
Charcoal.				
Removed by purchasers.				
Rawalpindi Division—				
Firewood, Mds. ...	85,645	...		
Charcoal, " ...	3,592	...	89,237	...
Lahore Division— Firewood ...	...	698,909	...	698,909
Phillour Division— Firewood ...	...	41,200	...	41,200
Lost by drying and used by Department.				
Rawalpindi Division— Firewood, Mds. ...	3,025	...	3,025	...
Lahore Division— Firewood ...	...	31,346	...	31,346
Balance at close of the year.				
Rawalpindi Division—				
Firewood, Mds. ...	5,645	...		
Charcoal " ...	2,737	...	8,382	...
Lahore Division— Firewood ...	13	170,758	13	170,758
Total ...	...	...	100,657	942,213
Removed by purchasers				
Rawalpindi Division ...	12,789	...	12,789	...
Beas Division ...	662,702	...	662,702	...
Phillour Division ..	764	...	764	...
Lost or used by the Department.				
Rawalpindi Division ...	1,663	...	1,663	...
Beas Division ...	836	...	836	...
Phillour Division ..	87	...	87	...
Balance in hand at close of the year.				
Rawalpindi Division ...	1,416	...	1,416	...
Phillour Division ...	1,087	...	1,087	...
Total ...	...	...	681,344	...
Shingles.				
Removed by purchasers.				
Hazára Division ...	323,300	...	323,300	
Balance in hand at close of the year.				
Hazára Division ..	...	...	...	
Total ...	...	...	323,300	...

Form No. 60.

Forest Department, Punjab.

Abstract showing the Value of Timber and other Forest Produce in Sale Depôts at the beginning and close of the year 1880-81.

Description of Timber and other Produce.	On hand at commencement of year.			On hand at close of the year.			Difference.		Remarks.
	No.	Cubical contents.	Value.	No.	Cubical contents.	Value.	In favor of the year.	Against the year	
		Feet.	Rs		Feet.	Rs	Rs	Rs	
Deodar timber	6,731	103,427	64,642	6,202	101,114	63,196	...	1,446	Deodar valued at 10 annas per cubic foot.
Other pine	779	13,414	4,192	1,829	29,206	9,127	4,935	...	Other pines valued at 5 annas per cubic foot.
Fancy woods	95	391	98	115	545	136	38	...	Fancy wood „ at 4 „ „ „ „
Broad gauge sleepers	2,472	8,555	6,180	3,833	10,976	9,583	3,403	...	Broad gauge sleepers valued at Rs 2-8-0 each.
Narrow „ „	769	1,132	1,153	1,222	1,804	1,838	680	...	Narrow „ „ „ at Rs 1-8-0 „
Other scantlings	1,412	2,513	1,256	2,639	3,745	1,873	617	...	Other scantlings at 8 annas a cubic foot.
Scraps and pieces	58	91	6	25	...	3	...	3	
Kikar trees	...	...	...	13	...	19	19	...	
Bamboos	6,953	...	146	2,503	...	60	...	86	
Firewood ... ... Maunds ...	635	...	159	5,645	...	1,411	1,252	...	Firewood at Rs 25 per 100 maunds.
Do ... ... Cubic feet	...	...	...	...	170,758	6,830	6,830	...	At Rs 4 per 100 cubic feet stacked.
Charcoal ... ... Maunds ...	...	...	...	2,737	...	3,592	3,592	...	At Rs 1-5-0 per maund.
Total ...	19,304	129,523	77,832	26,763	318,148	97,663	19,831	...	

NOTE.—Live and dead stock has been omitted from both sides of the account.

Appendix A.

Forest Department, Punjab.

Statement of Forest produce removed from the forests by purchasers.

Division.	Range.	Number of trees sold.				Number.		Fire-wood, cubic ft. stacked.	Char-coal.	Coal.
		Deodar.	Other pines.	Miscel-laneous.	Total.	Poles.	Bamboos.	Per Range.		
									Mds.	*C. ft.*
Hazara	Dungagali ...	...	203	...	203	...	...	3,044	168	...
	Kághan ...	...	5	...	5	...	...	...	...	...
	Khánpur ...	...	...	...	...	...	...	49,870	...	...
	Total ...	...	208	...	208	...	...	52,914	168	...
Rawal-pindi	Murree ...	...	495	207	702	1,247	...	411,773	...	...
	Kahuta ...	...	437	24	461	2	...	70,924	...	...
	Rawalpindi ...	...	33	...	33	...	...	198,630	...	...
	Attock ...	...	...	...	...	...	...	350,125	...	...
	Fatahjang ...	...	...	10	10	...	...	51,916	...	...
	Total ...	...	965	241	1,206	1,249	...	1,083,368	...	.
Jhelum ...	Jhelum ...	...	...	183	183	...	...	230,459	...	29,599
Gujranwala	Gujrat ...	...	...	...	...	...	...	213,300	...	...
Ravi ...	.....	...	26	...	26	...	...	...	...	...
Mooltan	Montgomery ...	...	...	...	...	2,942	...	3,065,168	...	...
	Mooltan	...	...	...	...	...	...	318,371	...	...
	Dera Ghazi Khan	...	...	...	...	32	...	...	...	...
	Total ...	...	...	...	...	2,974	...	3,383,539	...	...
Beas ...	Dera ...	...	1,010	644	1,654	...	...	...	...	...
	Nurpur ...	...	4,738	370	5,108	...	...	...	...	...
	Kulu ...	173	36	6	215	...	...	...	...	...
	Total ...	173	5,784	1,020	6,977	...	...	...	...	...
Phillour ...	Kálesur ...	...	...	...	...	711	10,880	15,300	...	...
	Grand Total	173	6,983	1,444	8,600	4,934	10,880	4,978,880	168	29,599

Proceedings of the Hon'ble the Lieutenant-Governor in the Department of Revenue, Agriculture and Commerce (Forests), No. 377, dated the 31st August 1882.

READ—

Report on Forest Administration in the Punjab for the year 1881-82.

REMARKS.—The financial results of the working of the Forest Department during the year have been satisfactory. The revenue realized was Rs. 16,629 more than in 1880-81; but as the expenditure of the Department increased by Rs. 20,902, the net income was Rs. 4,273 less than in the previous year, and amounted in round numbers to Rs. 1,72,000.

2. The Forest staff of the Province was stronger than usual throughout the year, although the full number of officers was never quite maintained. It may be hoped that the chief difficulties of the Department in this respect are now over. Four officers of the superior staff and three foresters attended the Forest School at Dera for two months. There can be no doubt that the training offered by the School to the subordinate staff will greatly improve their efficiency; and the Lieutenant-Governor trusts that the Conservator will use every effort to keep the establishment of rangers and foresters up to its full strength, in order that as many as possible may be able to benefit by the instruction given at the School.

3. In pursuance of the policy laid down by the Government of India and approved by the Secretary of State, two non-commissioned officers of the Native Army have been appointed to the subordinate staff of the Forest Department. Their work hitherto appears to have been, on the whole, satisfactory, and this subject will be noticed at greater length next year. The Lieutenant-Governor has recently insisted on the necessity of giving, in this matter, a fair trial to the policy of the Government of India with which he cordially agrees; and a third non-commissioned officer is now about to be offered the appointment of a forester in the Department.

4. Owing to the change of Conservators and to the possible reorganization of the civil charges of the Province, no progress was made during the year in redistributing the Forest Divisions and subordinating Forest Officers to Deputy Commissioners. The Lieutenant-Governor, however, hopes to be able to report next year that the scheme for the above purpose has been completed and carried into execution. It may be noticed here that the Pangi and Ravi Divisions have been amalgamated since last year's Report, the combined charge being now known as the Chamba Division.

5. During the year 217 square miles were added to the area of reserved forests, which now consists of 1,160 square miles. The enquiry into the proposed reserves in the Rawalpindi district was commenced by the Settlement Officer in the cold weather, and a preliminary report on the subject may be expected before the end of the year. The report on the Shahpur-Kandi forest is, it is understood, with the Conservator, and will no doubt be shortly submitted. The Gujrat reserves have been gazetted since the close of the year, and the final notifications of the reserves in the Chakwal and Talagang tahsils of the Jhelum district are now before Government, and will soon be issued. At the close of the year, Sir Robert Egerton decided that the Kulu forests should be treated as protected and not as reserved areas, and this conclusion will, if maintained, probably be accepted in regard to the Kangra forests as well. But as the Lieutenant-Governor understands that it is under contemplation to make a further reference to this Government on the matter, it is at present unnecessary to pursue the subject.

6. Good progress appears to have been made in the demarcation of the boundaries of reserves by the erection of masonry pillars, and in other ways. It is satisfactory to observe that in Jhelum the areas treated as reserves were made over to the Forest Department fully demarcated, and the same course should be followed in the case of the proposed reserves in the Rawalpindi district. In Chamba the rough demarcation of the leased forests has been completed, but the reserved areas still require to be surveyed and mapped. No report has yet been submitted by the Conservator on the results of the Chamba and Pangi operations, and the Lieutenant-Governor will be glad to receive one now. The question of the lower boundary of the Sabathu cantonment has been virtually settled, but the issue of final orders is delayed pending the receipt of a reply to a reference which has been made to the Military Department.

7. No addition was made to the area of protected forests during the year. The Bhera rakhs of the Shahpur district were transferred from the Jhelum to the Gujranwala Division; and an examination was made into all existing rights in the Lahore rakhs, which it is proposed to constitute protected forests. The report of the enquiry has been for some time in the hands of the Deputy Commissioner, and it is now desirable that its submission to Government should be expedited.

8. The Lieutenant-Governor notices with satisfaction that there has been a considerable decrease in the number of forest offences, and that the percentage of convictions has, at the same time, increased. These results are ascribed by the Conservator to greater vigilance on the part of the Forest Officers, and to the adequate punishments of forest offences. His Honor trusts that equal watchfulness and discrimination will be maintained in future years. The great number, however, of forest offences in the Kangra district of the Beas Division forms an unsatisfactory feature in the present returns, especially as very large grants of timber and fuel are made to the Kangra and Kulu people free of charge, or at very low rates. When the forest rights, which are now being defined, have been properly recorded, it will no doubt be possible to punish offenders more severely than heretofore,—a point which ought, in due time, to be borne in mind by the Commissioner of the Jullundur Division and the Deputy Commissioner of Kangra. The murderous assaults made on guards protecting the forests of the Jhelum Division are much to be regretted. A special pension will be proposed for the widow of the official who was killed in execution of his duty.

9. The area damaged by fires during 1881-82 shows a satisfactory diminution. In April 1881, the Commissioners of the Peshawar, Rawalpindi and Jullundur Divisions were invited to devise means for preventing fires, and their recommendations were, in almost all particulars, accepted by the Government, the Conservator being informed. The Lieutenant-Governor trusts that Government Officers will take every opportunity of impressing on the villagers whose lands adjoin the Government forests their responsibility in preventing fires within their bounds.

10. The account given of the planting, cultural and experimental operations of the year in paragraphs 65—100 of the Report does not call for any detailed notice. The work done at Sabathu, in the Pabbi Reserve and the Bashahr forests appears to have been successful; and the experiments in the treatment of forest growth at Changa Manga are interesting. As regards the Peshawar jhil plantation, it was decided by Sir Robert Egerton at the close of the year that a further sum of Rs. 5,000 should be spent on drainage works before resuming plantation on a more extended scale. Since then, however, some objections have been raised to the proposal by the Military authorities at Peshawar on sanitary grounds, and the question is therefore still under consideration.

11. The number of trees felled by the Forest Department during the year was 5,840, of which 4,553 were deodar, nearly half of them from the Bashahr Division. The amount of timber received in the depôts was 497,000 cubic feet, or much the same as last year; but sales from depôt increased by 57,000 cubic feet. These figures do not take into account the large quantity of firewood and bamboos sold in the Rawalpindi, Lahore and Beas Divisions. The balance of timber in the depôts at the close of the year consisted of 24,986 logs and pieces, containing 110,034 cubic feet; the number of pieces is larger than at the close of the previous year, but the cubic contents are more than one-fourth less. The scarcity of firewood at Rawalpindi has been brought to an end by the opening of the railway, which tapped the fuel supply of Kohat and Attock; and the sales from the Government depôt thus fell below those of the preceding year by 50,000 maunds. The result is satisfactory, for the resources of the rakhs in the neighbourhood of Rawalpindi were in some danger of exhaustion under the pressure of the great demand. There was a large falling off also in the amount of firewood removed by purchasers from the Mooltan rakhs, as the railway contractors were able to arrange with private persons for the supply of fuel on favourable terms. The number of sleepers imported from foreign territory during the year was considerably larger than in 1880-81; and though the number of deodar logs was less, the total amount of timber removed from the Government forests and imported from Native territory increased the general supply of available timber, and prices in consequence ruled somewhat low.

12. In paragraphs 12—13 of the Report, Major vanSomeren has contrasted the free grants made in Kulu with those made in Bashahr, and arrives at the conclusion that, for every eleven people who obtain a tree gratis in Bashahr, two people get one tree or more in Kulu. Without further examination the Lieutenant-Governor is not prepared to draw any inference from this comparison, and he observes that during the past year the free grants in Kulu have been reduced to 20,159 trees, whereas in the three previous years they always exceeded 30,000. In the recent orders regarding the demarcation of the Kulu forests, it was directed that registers of the free-grants made should be carefully kept up and checked from time to time, and this procedure should tend to prevent any unnecessary liberality in future. At the same time it must be remembered that, in such a matter as the free grant of timber, the people of a country like Kulu, snow bound in most parts for many months in the year, must be treated with all proper consideration. Separate correspondence on the subject was forwarded to the Conservator in November last, and he will remember that the Commissioner of the Division was unable to recommend any special measures for reducing the quantity of timber now allowed to the people without charge. No further steps seem possible until Mr. Anderson's report on the Kulu forests has been received. But Mr. Anderson will be requested to deal specially with this question, to report whether the grants are unnecessarily liberal, and, if so, in what way they can be properly restricted without disregarding the legitimate wants of the people. The Conservator will be given, in due course, an opportunity of considering Mr. Anderson's conclusions.

13. The financial results of the year have already been noticed. The actual net proceeds of the year's transactions, after adjustment for difference in stock, amount to Rs. 1,67,804. The decline in net income, notwithstanding larger sales of material under every head except firewood, is explained partly by a slight increase of expenditure, and partly by the low-selling rates of timber in the Hill Forest Divisions, and especially in Bashahr. The fluctuations of revenue and expenditure may be shown roughly in the following form, in considering which it must be remembered that the proceeds

of sales are credited in the Division in which the sales take place, and not in that from which the timber came:—

Name of Division.	Difference of Income of 1880-81 and 1881-82.		Difference of Expenditure of 1880-81 and 1881-82.	
	Increase.	Decrease.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
Hazara ...	...	6,000	...	6,000
Rawalpindi ...	...	25,000	...	18,000
Jhelum ...	...	40,000	11,000	...
Gujranwala ...	1,15,000	...	15,700	...
Chamba ...	...	13,000	1,000	...
Lahore ...	20,000	...	5,000	...
Mooltan ...	...	38,000	...	1,000
Beas ...	...	55,000	...	10,000
Bashahr ...	...	19,000	...	9,000
Phillour ...	77,000	...	22,000	...
Direction ...	...	...	4,400	...
Total ...	2,12,000	1,96,000	59,100	39,000
Net increase ...	16,000*		20,100*	

14. The increase in the Gujranwala Division is due to increased sales of timber and to a largely enhanced revenue from grazing fees, caused apparently by the transfer above mentioned of the Bhera rakhs. The same cause accounts for the decrease in the receipts of the Jhelum Division. In the Lahore Division the increase is due to a larger income received from the sales of firewood and from grazing fees, in the proportion of 3 to 1. In the Phillour Division the very large increase is caused entirely by sales of timber received from elsewhere, which were twice as large as in the previous year: eliminating these transactions, there is a loss to Government on the year's working in this Division taken by itself. The falling-off in the Hazara, Chamba, Beas and Bashahr Divisions occurred under the head of sales of timber only, and in Rawalpindi under the head of firewood; in the Mooltan Division a decrease of Rs. 48,000 under the sale of firewood is partly counteracted by an increase of Rs. 9,000 in grazing fees. The reasons which render the receipts on account of confiscated waif timber so large in the Jhelum river should have been explained, especially as the present arrangement, by which the waif timber of this river is collected by the Kashmir Darbar, is under consideration. The increased expenditure in the Jhelum Division falls under the heads of timber and duties on timber, but it is not very clear why this should be the case. For the Chamba Division which, as said above, appears now in the returns for the first time, it is not possible to make any comparison between the figures of last year and this. In view of the considerable decrease of income a larger reduction of expenditure than Rs. 1,000 would have been expected in the Mooltan Division. From the above remarks it is evident that the fluctuations in the revenue and expenditure of each year require to be briefly explained in further detail than is now the custom; and the Lieutenant-Governor would wish to see this done in next year's Report.

15. The outstandings due to the Department by contractors have recently formed the subject of a separate correspondence with the Conservator. The sums due on account of revenue have been reduced from Rs. 44,847 to Rs. 20,556 during the year. The balances in the Gujranwala and Lahore Divisions are, however, still unduly large, and every effort should be made during the current year to reduce all outstandings to a minimum.

16. As noticed by the Conservator in paragraph 10 of the Report, the management of the coal mines in the Jhelum Salt Range has been transferred,

* These figures differ from those given in paragragh 2 above, because nearly all divisional details have here been shown in even thousands.

under the orders of the Government of India, from the Forest to the Customs Department. It was also ruled by the Supreme Government that the stone required by Public Departments should be taken from the forest rakhs in the Salt Range and elsewhere free of royalty. These orders will, no doubt, slightly reduce forest income.

17. In paragraph 9 of the Report the Conservator refers to the success of the system of direct management of grazing in the Lahore Division. The reports which were called for on the grazing systems obtaining in each Forest Division have long been due, and the Lieutenant-Governor now hopes for their very early submission.

18. Turning to certain matters which are not mentioned or not discussed in the Report, it may be noted that, under orders received from the Government of India, the limits of the Military locations in the reserved forests of the Dungagali range are now under revision, the decision being that the forest areas within camp boundaries shall be, as much as possible, curtailed, rather than placed under the control of the Forest Department. In connection with the Hazara district it may also be mentioned that rough maps and records were prepared during 1881-82 for the demarcation of the village forests; and that, since the close of the year, a Forest Officer has been deputed to assist the Deputy Commissioner in carrying out this work. In the case of the Hoshiarpur "chos" and the area in the Sewaliks affected by them, it has recently been decided to select certain localities in the hills for experimental treatment with the object of afforesting the hill-sides and checking the ravages of the sand torrents. This subject will be noticed at further length in the review of the operations of the current year, to which it properly belongs. A report on the action of the Punjab Government with regard to the forests of the Hill States was submitted to the Government of India in January 1881. No progress has since been made with the subject, and a report is still awaited from the Superintendent of Hill States on certain forests of Raiengarh.

19. The office of Conservator was held, for part of the year, by Dr Schlich, and for the rest by Major Bailey. To their careful control the satisfactory results of the working of the Department now under review are due. The present Report, submitted by Major vanSomeren, Officiating Conservator, is clearly and well written, and has been promptly submitted.

ORDER.—Ordered that this Review be printed and published in the *Punjab Gazette*; also that copies be furnished to the Secretary to the Government of India, in the Home Department; to the Conservator of Forests, and to the Financial Commissioner.

By order of the Hon'ble the Lieutenant-Governor,

C. L. TUPPER,

Junior Secretary to Government, Punjab.

Printed at the Punjab Government Civil Secretariat Press, Lahore —4-9-82 — 400.

No. 45 C. L., dated Simla, the 1st July 1882.

From—MAJOR G. J. VAN SOMEREN, Conservator of Forests, Punjab,

To—The Secretary to Government, Punjab.

I have the honour to submit the Annual Administration Report of the Punjab Forest Department for the year 1881-82.

TABLE OF CONTENTS.

		Para.
CHAPTER I.—INTRODUCTORY REMARKS		1
CHAPTER II.—AREA AND BOUNDARIES OF RESERVES		14
	1. Area	14
	2. Boundaries	24
CHAPTER III.—AREAS AND BOUNDARIES OF PROTECTED FORESTS		36
CHAPTER IV.—PROTECTION AND IMPROVEMENT		42
	1. Establishment	42
	2. Breaches of Forest Rules	46
	3. Forest fires	53
	4. Grazing and Fencing	54
	5. Sowing and Planting	65
	6. Experiments	93
	7. Roads, Bridges, &c.	94
	8. Buildings, &c.	100
CHAPTER V.—YIELD AND WORKING		101
	1. Departmental operations	101
	2 Material removed from the Forests by purchasers	113
	3. Free grants of Forest material	115
	4. Total of material removed from Forests	116
	5. Foreign timber imported into British Territory	117
CHAPTER VI.—FINANCIAL RESULTS		121

Statements exhibiting the Annual Accounts.

Form No. 49.—Area of Reserved Forests.
" " 49.— " of Protected Forests.
" " 49.— " of Unreserved Forests.
" " 50.— " of Plantations.
" " 51.— " of Forest tracts protected from fire.
" " 52.—Prosecutions for breaches of Forest Rules.
" " 53.—Annual Summary of Revenue and Expenditure.
" " 54.—Account Current.
" " 55.—Statement of Outstandings and Liabilities on account of contractors and disbursers.
" " 56.— " of Outstandings on account of Revenue.
" " 57.— " of Financial results.
" " 58.— " of trees felled.
" " 59.— " of outturn of timber and other produce cut and collected.
" " 60.— " of timber, &c., brought to Depôt.
" " 61.— " of timber, &c, sold from Depôts, and locally.
" " 62.—Timber account of the year.
" " 63.—Statement of timber and other produce cut, collected and removed from the Forests.
" " 65.—Abstract showing the value of timber and other produce at Sale Depôts for the year.

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE PUNJAB

For the Year 1881-82.

By Major G. J. van SOMEREN, M. G. L. I.,

Conservator of Forests.

CHAPTER I.—INTRODUCTORY REMARKS.

The redistribution of the forest divisional charges was prominently referred to in the report for 1880-81, but the absence of the Conservator, Dr. Schlich, for part of the year on duty connected with the Forest School at Dera, and the changes caused by his promotion in October to the post of Officiating Inspector General of Forests, prevented the scheme being carried out. The want of sufficient officers to take up the Divisions would, if nothing else had prevented, have caused delay, but further consideration of the matter has led to a modification of the scheme, and it will shortly be laid before the Lieutenant Governor. The principle laid down last year will be kept to, and Forest Officers will, whenever it may be advantageous to do so, be placed in close relation to the District Officers.

2. The sanctioned establishment of Gazetted Officers for the Punjab is 22, including the Conservator. At no time during the year was the full number maintained, and at one time there were but 19 present for duty, including the four officers who were sent to the Forest School at Dera for two months.

3. During the past year four Gazetted Officers and three subordinates were sent to the Forest School. Though the school is still in its infancy there can be no doubt that it will prove a valuable aid to the department, and every endeavour will be made to utilize it for the training of the upper subordinates of the Punjab Forest Department. That can only be done if the establishment of Foresters and Rangers is kept up to adequate strength, so as to admit of a number of young men, who have served as foresters for two years, being sent to the school to get the rangers' certificate. The training of a thoroughly good subordinate staff is a matter both important and urgent, and proposals for raising and maintaining such a staff are now being submitted to the Government.

4. It is perhaps not out of place to refer here prominently to the Chamba Division, which, with its great capabilities and its fine forests, should yield a good surplus instead of, as at present, an annually recurring deficit. On the Pangi side it has been decided to stop work, as the forests there require rest. But the forests in the Ravi range should, under an improved system of working, a much closer supervision of both work and expenditure on work, better depôt management, improved communications, and a reduction of the subordinate establishment, pay all the expenses of the Division and leave a surplus Another matter that is very important is that good officers having been put into Chamba they should be kept there, and changes avoided as much as possible, a remark which applies equally to all the Hill divisions. In 1880 Mr. Lemarchand went to Chamba, in July 1881 he was relieved by an officer who left again in October, so that within 12 months there were three changes.

5. The improvements in Chamba cannot be carried out fully in one or, perhaps, even two years. The reserved forests require to be surveyed and mapped.

The Ravi is the most difficult of the Punjab rivers for floating purposes, and the Suil, one of its main tributaries, has, like most Chamba streams, a very rocky bed. It is not uncommon for wood to be even three years in getting down to the sale depôts in the plains. Sleepers sometimes take from two to three years, and deteriorate greatly in consequence The Ravi and its tributaries require to be carefully inspected, and dynamite or powder must be used to clear away obstacles. Existing roads and slides in and to the forests require much repair, and new ones must be made. Another thing urgently required is to concentrate the felling of trees, and to limit operations for a series of years to one forest or two neighbouring forests. The work has hitherto been scattered all over the country, the result being much expenditure, loss of money, material and time. Localization of felling operations, the clearing the rivers and streams of rocks, the repair and extension of roads and slides, will all tend greatly to bring down the heavy expenditure under A. I a. "Timber, Collection by Government Agency." But apart from this a better upper subordinate staff is much needed in Chamba.

6. One thing can however be done at once. The people of Chamba are extremely quiet and well-behaved. The breaches of forest rules are few and unimportant, and fires are accidental and of rare occurrence. The present Superintendent of Chamba gives the most cordial support to the department, and the immediate protection of the forests on the Upper Ravi might, with good supervision, be entrusted to the heads of villages at a very small expenditure to the Government. As a matter of fact, the guards are withdrawn during the winter months and the forests do not suffer. Guards are, however, required on the Lower Ravi below Sindhára to protect the timber floating down the river from theft. The Ravi below Sindhára is much used by merchants and by the Kashmír authorities, and theft is very common. The river too, owing to the many islands in its bed, requires constant inspection and floating off of stranded logs and sleepers. A junior European officer, or really honest ranger, will always be wanted on the Lower Ravi, and, owing to the nature of the country in Chamba, the Divisional Officer should always have an assistant to aid in the work above Chamba town.

In the Pangi range, directly that the few logs and sleepers still in the forests have been launched, the establishment of guards might be almost entirely withdrawn and only one check station kept up on the Chenab, for the purpose of regulating the floating of merchants' wood.

7. The smaller demand for fuel from the Government Forests in the Rawalpindi Division is reported in para. 111 of this report. The fact that fuel can be supplied from other sources is very satisfactory, for the Rawalpindi forests require rest for years, having been greatly overworked.

8. A report on the systems pursued in selling the grazing over rakhs and forests under the control of the department has been called for by the Government, and is in course of preparation.

9. The amáni system, or direct departmental management, was in force throughout last year in the Lahore Division, and worked well. The increase in this branch of the revenue was Rs. 6,554. The question received much attention in Lahore and, owing to the system adopted and the close supervision exercised, the following interesting and useful facts were elicited. On to 209,728 acres there were admitted of mature cattle, buffaloes 8,768, cows 30,280, sheep and goats 33,440, camels 2,324, asses 157, or a total of 74,969 beasts.

These figures worked out, give per 100 acres—

Buffaloes	4 16
Cows	14·44
Sheep and goats	15 95
Camels	1·15
Asses	0 07

or 35·77 beasts per 100 acres. In addition a number of young cattle under two years of age were allowed to graze free and were not counted, so that it may be assumed that in calculating areas to be given up for cattle requiring grazing, 2·8 acres are sufficient per head, and 3 acres will be an ample allowance.

10. Rs. 8,586 have been realized by the sale of coal during the period comprised between the 1st April and the 31st December 1881 At the commencement of 1882 the management of the Mines was transferred to the Inland Customs Department, and the rate of royalty was at the same time reduced from two rupees to four annas per ton. The total out turn of the Mines from the 1st April to the 31st December 1881 was 4,292 tons 16 cwts. It was ruled by Government that the Customs Department should credit the Forest Department with four annas per ton of coal raised, but hitherto no credit appears to have been afforded. This is being now looked to. Some coal-mining has been commenced in Kala Chitta reserve in the Rawalpindi Division.

11. During the year boulder stone has been removed by the Assistant Engineer, Jhelum Sub-Division, from various rakhs in the Salt Range, to the extent of 109,200 cubic feet, value (at Rs. 2 per 100 cubic feet) Rs. 2,184, but, under orders of the Conservator of Forests, the question of debiting the Public Works Department with the value of the stone has hitherto been held in abeyance. The unsettled account stands as follows :—

			Cubic feet.
Stone removed during 1880-81	...	...	30,904
" " 1881-82	...	...	109,200
	Total	...	140,104
	Value Rs.	...	2,802-1-3

Besides the stone removed by the Assistant Engineer, Jhelum, enormous quantities both of boulder stone and of very valuable building stone have been removed from the Tarakki Quarry in Rakh Nili by the Executive Engineer, Ratiál Ravines Division, Punjab Northern State Railway. The matter will be settled at an early date.

12. A comparison of numbers of trees granted free in Kulu, and in the neighbouring division of Bashahr, appears to call for further notice. A tabular statement will be found at para 115 showing the grants in the Province. Comparing the grants in these two districts for the past two years (the number of trees given to the Civil Department in Beas being deducted for 1881-82), the result is :—

Division.	Description of tree.	In 1880-81.	In 1881-82.	Total for 2 years.	Totals of trees.
Kulu portion of Beas Division ...	Deodar ...	454	215	669	
	Other trees ...	38,352	20,109	58,461	59,130
All Bashahr ...	Deodar ...	70	156	226	
	Other trees ...	2,907	2,157	5,064	5,290

13. The population of Kulu including Plách is 100,000 ; that of Bashahr is 64,345, so that Kulu was granted rather more than one tree for every two individuals, while in Bashahr one tree was given during the same term of years for every eleven souls. It has been lately reported from Kulu that the free grants up to date in the first quarter of 1881-82 were 12,000 trees, or at the rate of 50,000 trees a year. The matter seems to demand fresh enquiry, for it is hard to see why Kulu villagers want something like ten times as many trees as Bashahr villagers.

CHAPTER II.—AREA AND BOUNDARIES OF RESERVES.

1.—Area.

14. The full details of changes in the area of reserves are given in form No. 49, and are abstracted below (in square miles).

Divisions.		Area on 1st April 1881.	Added during the year.	Total on 31st March 1882
Hazára		236	...	236
Rawalpindi		104	...	104
Jhelum		..	119	119
Gujránwála		45	...	45
Chamba	Pangi	57	9	224
	Ravi	158		
Lahore		38	...	38
Mooltan		108	89	197
Beas		60	...	60
Bashahr		135	...	135
Phillour		2	...	2
Total ...		943	217	1,160

15. The Pangi and Ravi Divisions were amalgamated and are now known as the Chamba Division. The largest additions during the year were in the Jhelum and Mooltan Divisions, and the classification of the reserves now stands thus :—

	Square miles.
Upper Hill Forests (deodar, &c)	545
Lower Hill Forests (chil, &c)	110
Plains Forests, rakhs (sanatha, jhand, &c)	505
Total ...	1,160

16. *Rawalpindi Division.*—A notification was issued under Section 4 of the Forest Act, setting forth that it was intended to reserve 17 blocks in the Murree Tahsíl, in addition to 12 blocks notified the preceding year, 25 in Kahuta, and one in Rawalpindi. Mr Steedman was appointed Forest Settlement Officer. The most important blocks in Kahuta were visited by the Civil and Forest Officers, temporary boundaries were fixed and certain proposals made, but another year or more will probably pass before the settlement will be completed, for, independently of the classification of the land into reserves or other forests, the area to be dealt with is extensive, and the compensation to be awarded will require much careful enquiry The blocks north of Murree were also inspected, but no final results have yet been arrived at.

The reservation of these at present unreserved areas is an important matter, for many of them have great capabilities and are favourably situated, as regards markets and outlets, while they are deteriorating for want of proper care and management.

17. *Jhelum Division.*—In the Jhelum Tahsíl 12 rakhs and belás, measuring 119 square miles, were declared reserves with effect from the 25th November 1881; and all preliminary steps for the reservation, sanctioned by Government, of six other rakhs in Chakwál and Talagang Tahsíls, measuring 64 square miles, have been completed, and nothing now remains but to declare them reserves.

In the Pind Dádan Khan Tahsíl all requisite Forest Settlement proceedings have been taken in respect of the reservation of 10 rakhs measuring 83 square miles, of 1 rakh measuring 30 square miles in Jhelum Tahsíl, and of 5 rakhs measuring 23 square miles in Chakwál Tahsíl. In accordance with settlement proposals, the boundaries and areas of these 16 rakhs have been modified and pillars erected. When the final Gazette Notification issues these 136 square miles will become reserves.

The management of rakhs Rangpur and Surla in Chakwál (under orders issued by Government in April 1882) will be transferred to the Civil Officers, and the reserves will thus be reduced by some 17 square miles.

The following table shows the results which may be expected to be completed by the end of the calendar year 1882 in the selection and constitution of reserves in the Jhelum Division :—

Tahsil.	Area on 1st April 1882.	Sanctioned by Government and Final Notification about to issue.	Areas proposed, all legal steps taken, short of final notification waiting orders of Government.	Areas in Rang pur and Surla to be deducted	Total area in square miles, expected at end of 1882.
Jhelum ...	119	...	30	...	149
Chakwál ...	...	22	23	17	28
Talagang ...	...	42	...	...	42
Pind Dádan Khan ...	...	...	83	...	83
TOTAL ...	119	64	136	17	302

The final arrangements for the management of rakhs, covering an area of some 54 square miles, in the vicinity of the Salt Mines, are not yet settled on, and the settlement of the Khusháb Rakhs of the Shahpur District is still to be taken up.

18. *Gujránwála Division.*—The final gazetting of 88* square miles in the Gujránwála District will be delayed for some time, owing to an informality in the proceedings of the Forest Settlement Officer. The final notification, under Section 19 of the Forest Act, of 32 square miles in the Gujrat District, was drafted by the Forest Department in March 1881, but is still with the Civil Officers for verification. It is confidently expected that it will shortly be ready for issue.

19. *Chamba Division.*—During the year one division called *Chamba* was formed out of the Ravi and Pangi Divisions, so as to place all the forests in Chamba territory under one Divisional Officer. Including 9 square miles added during 1880-81 in the Pangi portion, the reserves of Chamba now nominally stand at 224 square miles. These forests, however, have not yet been surveyed.

The settlement of the Shahpur Kandi Forest was resumed in November last by Mr. Dane, C. S., and Mr. Vincent of the Forest Department, and the matter will be ripe for orders this year. The area that can be reserved will, it is feared, be much less than the 21 square miles mentioned in the last report.

An examination with a view to final demarcation of the Chamba reserves, on the Ravi side, was carried out last year by Mr. Vincent and Mr. Murray, both of the Forest Department; and a report submitted by the former, which is now being discussed by the Conservator and the Superintendent of Chamba.

20. *Lahore Division.*—The report on the state of cultivation in the rakhs proposed to be reserved has not yet, it is believed, been submitted by the special Civil Officer detailed for the work.

21. *Mooltan Division.*—Here the Assistant Conservator reports a correction in areas, which are now stated to be, in the Mooltan Division 108 square miles, with an addition of 89 square miles (and not 93 square miles as shown in the Provincial Report, para. 21, for preceding year) in the Montgomery District. The proposals regarding reserves to be added in Muzaffargarh and Dera Gházi Khan are still pending.

* The Conservator's report for last year, para. 18, speaks of 92 square miles, the correct area is reported by the Divisional Officer to be 88 square miles.

22. *Beas Division.*—No additions have been made here. The Government has decided that the Forests in Kulu which were to be reserved shall now be treated only as protected Forests.

23. *Total.*—The Settlement work carried out during the year may be thus summarized—

	Square miles.
Completed and declared reserves	217
" at close of year and then waiting final orders ...	320
Total ...	537
In progress in Kángra District	380
Completed and ordered since 1st April 1882 to be transferred to Civil Officers in Jhelum	17
Total ...	397
Grand Total ...	934

2.—Boundaries.

24. This important portion of work to be done has received attention during the year.

25. *Hazára Division.*—The demarcation of the Dungagali Range was completed. The total cost has been nearly Rs 131-8 a mile, which is very high. In the Siran Range 9 miles were completed, out of a total of 33, at a cost of Rs 64-4 per mile. In the Khánpur Range 247 fallen pillars were rebuilt; and it is hoped that the Kaghan Range will be taken in hand towards the close of 1882-83.

The Military authorities wish to extend the Thoba location and to revise the boundaries of the various cantonments, but a committee did not sit for that purpose till after the close of the year.

26. *Rawalpindi Division.*—Here the area of reserves being 104 square miles, 2,090 pillars had been erected over 292 miles of boundaries up to the end of March 1881. During the past year 56 new pillars only were erected, but much old work, badly carried out by local Tahsíl subordinates, most of whom are now either dead or discharged, had to be done over again Old pillars were knocked down and new sites marked with heaps of stones. Constant disputes arose but it is hoped that the work will now very shortly be completed. Two old-standing disputes of some importance are, one between the department and Sirdar Khuda Dád, son of Fatteh Khan, and the other Pír Sadr Dín's claim to a large part of Rakh Márgalla. The Settlement Officer has, however, submitted his final report to the Settlement Commissioner regarding Khuda Dád's dispute; and with regard to the second dispute, the Settlement Officer has been instructed to define the Pír's grazing rights in the reserve. These matters will thus, it is hoped, be settled ere long.

27. *Jhelum Division.*—The District authorities had demarcated the rakhs in the Jhelum Salt Range before they were made over to the Forest Department. The masonry pillars then put up are in existence, and generally in good order, so that beyond the erection of new pillars whenever a change was made in the boundary during the recent forest settlement operations, no demarcation work was found to be necessary. The few pillars required were erected at once on the issue of the Settlement Officer's preliminary orders on each rakh. The very satisfactory result is, that not only the reserves already gazetted but also the areas proposed to be reserved, or in other words the whole of the 302 square miles detailed in the tabular statement in para. 17 of this report, are completely demarcated. A new boundary line was also laid out in Bela Pira Ghaib to secure a clear river frontage to the villagers in the neighbourhood. Owing to the facts that the zamíndárs, in whose favour the boundaries were altered, supplied free labor, and that material was abundant on the spot, and also to the Divisional Officer's (Mr Reuther) careful supervision, the expenditure was small.

	Rs.
For new pillars including Rs 30 disbursed after 1st April 1882 ..	37
Pay and travelling allowance of an extra clerk	149
Printing charges	13
New boundary to Bela Pira Ghaib	72
Total ...	271

In addition to the above, the sum of Rs. 57-9-0 was shown in the Jhelum Division accounts as spent on surveying, preliminary to demarcation, of the Bhera Rakhs transferred to the Gujránwála Division.

The cash compensation paid for extinction of forest rights (including Rs. 273-15-10 disbursed in April 1882 on account of last season's works) was Rs. 2,008-5-10.

28. *Gujránwála Division.*—Steady progress has been made during the year in the proposed reserves. Out of a length of boundary to be completed at the commencement of the year of—

Gujránwála ... ... 14½ miles } Total 60¾ miles,
Gujrat ... ... 46¼ „ }

42¾ were finished, leaving a balance of 18 for next year, *viz*, Gujránwála 10¼ miles, Gujrat 7¾ miles. The whole of the Gujrat balance is in dispute, while that of the Gujránwála District adjoins the protected forests and will be easily set off.

29. The following statement shows in detail what has been done :—

Names of proposed reserves.	Area of proposed reserves in square miles.	Demarcated: Up to 1st April 1881. Length in miles	No. of trenches	Cost Rs.	Demarcated: During 1881-82. Length in miles.	No. of trenches.	Cost Rs.	Balance remaining undemarcated on 31st March 1882 in miles.	Remarks.
I. Jhinda Jharianah	2	4	...	...	...	...	...	...	Cost of 1881 82 work includes clearing of line 5' to 10' broad and marking out trenches.
II. Makki ...	7	9½	...	...	...	...	...	...	
III. Hamoke ...	4	7½	...	...	...	...	...	...	
IV. Kamawali ...	10	11½	...	...	...	...	...	...	
V. Kamalwali ...	7	10½	...	...	...	...	...	...	
VI. Lagar ...	7	9½	...	...	...	...	...	...	
VII. Ratti Tibbi ...	12	5	...	...	...	...	...	3¾	
VIII. Gujiana ...	11	4¼	...	...	4¼	172	93	1	
IX. Kingranwáli ...	8	5½	..	..	...	...	...	¾	
X. Daban ...	6	2½	...	...	...	...	...	4¼	
XI. Bhikoluhári ...	7	7¾	...	...	...	...	...	...	
XII. Bhagomalla ...	7	9	...	...	...	...	...	...	
Total Gujranwála ...	88	86½	...	..	4¼	172	93	10¼	
Rasúl ...	2	4½	...	..	...	...	27	1	Repairs, demarcated by masonry pillars.
Chimmoo ...	4	3½	...	...	6	307½	123	...	
Gohar ...	4	7	177	...	1	44	23	¼	
Bukun ...	3	5	130	...	2½	106½	50	1¾	
Buchchar ...	1	1	26	...	..	2	...	...	Part of this at angles only.
Soháwa Kadím ...	6	...	...	...	9½	262½	} 123	...	At corners only.
Soháwa Jadíd ...	2	1½	...	...	4	64½			
Bhiki ...	5	14	...	...	...	...	17	...	Clearing only.
Wásu ...	2	...	...	...	3½	139	53	1¼	
Shahidánwáli ...	1	...	...	...	3½	67	25	..	Trenches at angles only.
Minárgarh ...	1	...	...	...	4½	...	...	2½	Do. do.
Taraniwáli ...	1	...	...	...	1½	92½	40	¾	
Tibbi Tarar ...	...	...	...	...	2½	106½	38	...	
Total Gujrat ...	32	36½	...	...	38½	1,192	519	7¾	
Grand Total ...	120	123	...	...	42¾	1,364	612	18	

It differs somewhat from that submitted last year but may be accepted as more correct. The demarcation carried out during the year consists of lines cleared to a width of 5 to 10 feet and of trenches of 1 chain long, 3 feet broad at

top and 1 at bottom, and 2 feet deep, at intervals of 1 chain. In previous year in the Gujrat District at least, no cleared lines were cut, while the trenches were only 50 feet long, and at intervals of 150 feet. This demarcation, it is needless to say, was very difficult to follow.

It was hoped that the whole of the boundary of the proposed reserves, remaining undemarcated on the 1st April 1881, would have been completed during the year, but this was found to be impracticable.

30. *Chamba Division.*—The length of boundary remaining to be completed is considerable, but no figures can yet be given. The work done by Mr. Vincent on the Ravi side of the Division last year is, as already stated, under discussion, and as no surveys have been made of the forests it would be mere guessing, however near that might be, to say that a certain number of miles has yet to be demarcated. On the Pangi side 9 square miles of reserves were added, and the wor of demarcation is said to be completed.

The pillars in the Kálatop, Kaintli, Bannikhet and Bakloh reserves were maintained.

31. *Lahore Division.*—At Sarai Amánat Khan 3½ miles of boundary were demarcated with 135 mud and 53 masonry pillars, leaving about 1½ miles still to complete the rakh, and this will be done when some minor disputes are settled. Old marks round all the reserves were kept in order and added to, the work under this head being the erection of 177 mud and 86 masonry pillars.

32. *Mooltan Division.*—Here pillars have not been built, but many of the reserves have been set off by lines cut to a width of 20 feet in which posts of Salvadora, with serial numbers in Urdu cut on them, have been erected. Twelve out of the twenty gazetted reserves in Montgomery were finished this year, thus completing the demarcation of the 20 reserves excepting a small portion of one reserve, Montgomery, in which a part of the police rakh was accidentally included. In one reserve, Okára, the work was done by a contractor who removed the wood cut, paying for it at the rate of Rs. 2 per 100 cubic feet, while in the other reserves the cut wood was piled along the inner edge of the line to form a fence and to encourage the growth of vegetation in the partial shade thus afforded. On the Mooltan side maintenance of the entire boundary, 11 miles of the Bura Kotla reserve, was carried out; and the demarcation of 3 out of 4 reserves in Mailsi was completed. In the Lodhrán Tahsíl 14½ miles were cut to a width of 20 feet. Altogether 130 miles were completed, bringing the total length of demarcation finished to 352 miles.

The cost throughout of the year's work varied from Rs. 11 to Rs. 14 a mile, and there still remain to be done the Sahoki and the Jalálpur reserves.

In Muzaffargarh and Dera Gházi Khan nothing was done.

33. *Beas Division.*—The pillars in two ranges, Dera and Núrpur, were repaired, and in Lohara, Darni and Panjal they were numbered consecutively. The Kulu Forests are now not to be reserved, but before that decision was arrived at, 128 miles, with 256 pillars, had been temporarily demarcated. The work is not, however, included in the statement shown in this chapter, which deals only with *reserves.*

34. *Bashahr Division.*—Nothing was done except maintenance of old work. About 18 square miles of forest were examined with a view to demarcation.

35. *Phillour Division.*—At Subáthu the lower boundary is still unsettled. The upper boundary, 5½ miles long, has been demarcated for a length of 1½ miles by an aloe hedge; the other 4 miles are reported to be sufficiently marked out by

natural features requiring no other boundary. This is as a rule not sufficient, and the Conservator will inspect the line and issue orders regarding it. It is not enough that the officers immediately connected with the work know where a boundary line runs, or know that it is laid off on a map. It is necessary that a reserve shall be set off by marks evident to all, or else it will not be possible to prosecute trespassers who, in a length of 4 miles, may very easily enter the limits of a reserve without knowing that they have passed over an imaginary line. Even roads cannot be considered to be sufficient as boundaries in themselves. Pillars must be put up along them to advertise the fact that the particular roads are also boundaries.

The Kalesar dispute was settled in March 1882, demarcation work was begun, but will appear in next year's report.

CHAPTER III.—PROTECTED FORESTS.

1.—Areas.

36. The only blocks of forests yet declared "Protected Forests," under Chapter IV of the Indian Forest Act, are those mentioned in last year's report.

1. The Kala Chitta in Rawalpindi, area = 171 square miles.
2. The Gujránwála rakhs " = 140 " "

The Revenue Survey Department has been at work surveying the hills among which Kala Chitta lies, and some of the survey sheets have been received. The rest may possibly follow in time to admit of the Forest Settlement being undertaken in 1882-83.

37. In Gujránwála, owing to delay in an enquiry into existing rights, the 137 square miles in the Jhang District could not be added to the protected area.

An addition of 231 square miles was made to the unreserved forests of Gujránwála, in the Shahpur District, by transfer from the Jhelum Division of the Bhera Rakhs. These rakhs were to have been formed into reserves in Jhelum.*

38. In the *Lahore Division* 322 square miles of unreserved forests in the Chunian, Lahore and Sharakpur Tahsíls are proposed to be protected, but nothing can be done definitely till the Civil Officer's report is in. In Rakh Van Radha Ram the control of 687 acres has been resumed by the Forest Department pending result of a reference to the Financial Commissioner.

2.—Boundaries.

39. The whole of the Kala Chitta forest boundary was inspected, and some whitewashed masonry pillars added to the number already erected.

40. In the Gujránwála Division the undemarcated length of 41 miles was reduced to 36¾, of which 10¾ miles is boundary between reserves and protected forests.

The work in Jhang could not be taken up as the record of rights has still to be done, but in the Bhera Rakhs 33¼ miles were completed at a cost of Rs. 675.

---

* The Jhelum Division reports the transferred area as 231 square miles, but the Gujránwála Divisional Officer reports that the area has been reduced to 223 square miles, by the exclusion of 8 square miles as arranged between the Conservator and the Financial Commissioner.

Summarized, the work in Gujránwála was :—

Name of Forest.	Area in square miles.	Demarcated		Balance remaining to be demarcated.	Remarks.
		Up to April 1881.	*During* 1881-82.		
		Length in miles.	Length in miles.		
Gujránwála protected Forests ...	140	38½	4¼	36¾	
Bhera Rakhs ...	223	151¼	33¼	138	

41. In the Lahore Division 6,746 mud pillars were put up, 3,151 of these in the Chunián Tahsíl were erected by Zamindárs free of cost. All existing pillars were kept in repair—1¼ miles of trench were dug to define more clearly a portion of Rakh Wan Rádharám; and 1¾ of trench demarcation completed in Rakh Tera.

CHAPTER IV.—PROTECTION AND IMPROVEMENT.

1.—Establishments.

42. Dr. Schlich, the Conservator of the Province, was appointed in October 1881 to the post of Officiating Inspector General of Forests to the Government of India, and was relieved in the Punjab by Major Bailey, R. E., who held the appointment for the rest of the official year, being relieved in May 1882 by Major G. J. van Someren, by whom this report is drawn up and submitted.

43. Mr. Mackay, Assistant Conservator, and Mr. Spread, Probationer, resigned the service. Mr. Carr and Mr. Lace, Assistant Conservators, appointed by the Secretary of State, joined in the Punjab, and were posted to the Lahore and Gujránwála Divisions, respectively.

Mr. Ellis, Deputy Conservator, who had held charge of the Pangi Division, was transferred to Bengal, and the Pangi and Ravi Divisions were then amalgamated and called the Chamba Division. Mr. Lemarchand, Assistant Conservator, held charge of the Ravi Division till July 1881, when he was relieved by Major van Someren on return from furlough. The Chamba Division having been formed in October 1881, was handed over to Mr. McDonell, Deputy Conservator, at the end of October, and Major van Someren went to the School Circle as Conservator and Director of the Forest School, North-Western Provinces.

44. Among the upper subordinates, 1 Ranger and 4 Foresters resigned or were discharged for various reasons, being superannuated, or for incapacity or misconduct.

It is only necessary to mention the names of Foresters Hashmat Ali (Hazára) and Sardha Singh (Rawalpindi), who were both dismissed for misconduct.

A guard, Ilahi Baksh, Jhelum Division, was murdered while in the discharge of his duties. His murderer was condemned to death, and several accessories after the fact were sentenced to various terms of imprisonment.

Havildár Sadhu Singh of the 14th Sikhs was appointed a Forester in the Department, and as he knows English will be sent during 1882-83 to the Forest School at Dera for instruction.

45. The undermentioned officers and men attended the Forest School, and the reports received regarding their progress and conduct were good :—

1. J C. McDonell Esquire, Deputy Conservator of Forests.
2. A. M Reuther Esquire, Assistant Conservator of Forests.
3. J Copeland Esquire, Probationer.
4. E Murray Esquire, do.
5. Fazl-ud Din, Forester.
6. Doulat Rám, do.
7. Moti Singh, do.

2.—Breaches of Forest Rules.

46. Owing to the introduction of new and improved forms, fuller information, which will be found *in extenso* in appended Statement Form 52, is available this year. The cases pending from the previous year are now shown, and thus a more detailed and more accurate comparison of the breaches of rules and the results of prosecutions is rendered possible, and it will be better now to at once adopt these in the body of this report, and thus make the year 1881-82 the first of a new series of compared years. But, for the sake of immediate comparison with past years, the results of 1881-82, calculated on the old method, are now given in a foot-note which need not be referred to next year.*

Form No. 52 is summarized in the following table :—

Division.	*Prosecutions.*				Convictions.	Acquittals.	Cases pending at close of 1881-82.
	Pending from 1880-81.	New of 1881-82.	Total for trial.	Concluded in 1881-82			
Hazára	53	57	110	99	57	42	11
Rawalpindi	22	95	117	77	44	33	40
Jhelum	2	88	90	90	82	8	none
Gujránwála	1	87	88	82	62	20	6
Chamba	5	16	21	15	9	6	6
Lahore	none	26	26	26	23	3	none
Mooltan	28	88	116	84	38	46	32
Beas	7	211	218	190	158	32	28
Bashahr	11	27	38	32	29	3	6
Phillour	7	15	22	21	13	8	1
Totals ...	136	710	846	716	515	201	130

47. Including the prosecutions pending from 1880-81, but excluding those pending at close of 1881-82, the percentage of convictions (515) to prosecutions concluded (716) for 1881-82 is so nearly 71, that that figure may be adopted.

* In 1878-79 ... ... 685 prosecutions.
„ 1879-80 ... ... 726 do.
„ 1880-81 ... ... 875 do.
„ 1881-82 ... ... 710 do.

or a decrease from the previous year of 165 prosecutions. The average of convictions was :—

In 1878-79 ... ... 66 per cent.
„ 1879-80 ... ... 67 do.
„ 1880-81 ... ... 66 do.
„ 1881-82 ... ... 73 do.

Discriminating between offences of different kinds the information obtained is summarized thus :—

Nature of offence.	Number.				
	1879-80.	1880-81.	1881-82.	Increase over previous year.	Decrease from previous year.
1. Injury to forests by fire	103	105	92	...	13
2. Unauthorized felling or appropriation of wood or minor produce	349	389	382	...	7
3. Grazing without permission	201	272	149	...	123
4. Other offences	73	109	87	...	22
Totals ...	726	875	710	...	165

48. Of the 92 cases of injury by fire 38 occurred in the Beas (a hill) Division, and 32 in the Mooltan (a plains) Division, while there were no cases in the Jhelum Division. The number of cases of unauthorized felling is stationary for the Province, but of the 382 for the year, the Beas (a hill) Division supplied 137. Jhelum (a plains) Division comes next with 79, while Chamba and Bashahr, both Hill Divisions, show but 9 and 6, respectively.

49. The large number of cases in the Beas Division under both these subheads calls for more detailed notice. The number of cases (38) of injury by fire was exactly the same as in the preceding year, when also the Beas Division headed the list. In the Hazára, another Hill Division, cases of the same description met with severe punishment and consequently fell from 30 in 1880-81 to but 8 in 1881-82. In 1880-81 the Beas Division headed the list of unauthorized fellings with 88 cases; in 1881-82 it again heads the list with 137. As the percentage of convictions to prosecutions concluded in 1881-82, for this Division, is as high as 84, the Forest Officers cannot be said to have initiated prosecutions without good cause; and the conclusion is therefore drawn that the increase of offences in the Beas Division, most of which (113 out of 137) are in the Kángra District, and committed by a small population enjoying many forest rights in a well-wooded country, while, perhaps, in part due to offences not being punished with proper severity, is to be ascribed mainly to the still unsatisfactory state of the settlement of forest rights, and the want of clearly defined records thereof, though these matters have been under discussion for many years.

50. The great decrease in cases of grazing without permission is very satisfactory. Out of a total decrease of 123 in the Province, as compared with 1880-81, Rawalpindi shows a decrease of 83 and Hazára of 40; while Gujránwála, Beas and Lahore show an increase respectively of 18, 13 and 3 cases. Under "other offences" there was a decrease of 22 cases. The Jhelum (Mr. Reuther's) Division shows a percentage of convictions to prosecutions of a little more than 91, but is closely followed by Bashahr with nearly 91, and Hazára with 90, while the Mooltan percentage is but 45. Although the year's work under this head was good so far, two very serious cases occurred of assault on guards defending Government forests. One case ending in the death of the guard has been already referred to, in the other the wounded man recovered. Mr. Reuther reports that these two cases have frightened his guards and that they are somewhat cowed. In the *Lahore Division* the inhabitants of villages adjoining Rakh Kot Lakhpat have given much trouble by rescuing cattle impounded.

51. In the *Jhelum Division* a man, named Gurditta, personated a Government servant and, accompanied by two assistants in the guise of chaprasis, travelled along the banks of the Jhelum below Khusháb selling whatever stranded timber he was able to dispose of. All three men were apprehended. The principal then escaped, but, after remaining at large for a considerable period, he

was again caught and sentenced to a long term of imprisonment, while his assistants were punished with 6 months' imprisonment and a fine of Rs. 50 each.

52. A careful study of the Divisional Reports shows that the decrease in prosecutions throughout the Province is due to the more severe punishments now generally meted out by magistrates, and to more active prevention on the part of the Forest Officers. The hopes expressed in the Report for 1880-81, by Dr. Schlich, that forest offences would decrease, have not been falsified, and continued care and vigilance on the one side, combined with due severity on the other, will, it is hoped, tend to again reduce the number of offences in the current year.

3.—Forest Fires.

53. During the year 92 fires were reported in forests under the control of the department.

Division.		No. of fires.	Estimated area over which the fires spread.
Hazára	...	8	108 acres.
Rawalpindi	...	not given	3,000 „
Jhelum	...	none	none
Gujránwála	...	3	53 „
Chamba	...	1	0 „ Extinguished immediately.
Lahore	...	5	500 „
Mooltan	...	33	9,584 „
Beas	...	30	1,926 „
Bashahr	...	12	462 „
Phillour	...	none	none
Total	...	92	15,633 acres.

Compared with previous years the result is good :—

	Acres burnt.
In 1879-80	142,599
„ 1880-81	22,073
„ 1881-82	15,633

The area of reserves actually protected by special measures against fire is small, and amounts in 3 Divisions to 6,920 acres protected during the year at a total cost of Rs. 551.

4.—Grazing and Fencing.

54. Working on the lines laid down in 1879-80, *viz.*, to restrict protection against grazing to those areas where it was absolutely necessary, but to obtain success in them, the percentage of land closed against grazing, whether entirely closed, or closed but partially, out of the total area of forests under the control of the department, is approximately 13 per cent.

55. *Hazára Division.*

Khánpur range	...	...	...	50 square miles.
Part of Dungagali	...	...	...	30 „
„ of Khagan	...	...	...	30 „

or 42 per cent.

The fence round Changlagali plantation was repaired.

56. *Rawalpindi Division.*—Out of a total area of 104 square miles there were closed :—

Márgalla	...	...	...	38 square miles.
Khairi Murat	...	...	...	29 „
Kauliál	...	...	...	2 „
Kawágarh	...	...	...	7 „
Kherimár	...	...	...	6 „
		Total	...	82 „

or over 12 per cent.

No new fencing was done.

57. *Jhelum Division.*—Here there were closed entirely 23 square miles (estimated). Owing to the corrections in areas; to transfer of the Bhera Rakhs to the Gujránwála Division; and to surrender of lands; the area, 38 square miles, entirely closed in 1879-80 was reduced last year.

There were closed against camels, goats and sheep 47 square miles. The percentage of closed to total area was a little over 9 per cent. No attempt has been made in the Jhelum Division to fence these areas in so rugged a land as the Salt range. But the tracts closed against cattle are set off by pillars.

58. *Gujránwála Division.*—Here over a total area of 680 square miles there were—

Closed entirely	...	...	6 square miles
Closed during most part of the year.	...	...	33 „
Closed to camels, goats and sheep.	...	...	111 „
Closed to camels only.	...	...	36 „

so that restrictions, more or less partial, were enforced over 22 per cent. of the whole area; nearly 6 per cent. was more rigidly closed, while the absolutely closed area was but 0·9 of the whole. The grazing over 543 square miles was disposed of according to Financial Commissioner's Book Circular No. XV of 1879.

59. *Chamba Division.*—The closed areas remain as before :—

In part of Kálatop	...	...	... 1,706	acres.
In Bakloh	...	...	... 700	„
		Total	... 2,406	„

or under 4 square miles in 261. About 1,400 running yards of fencing in Kálatop were repaired. In Bakloh, about a mile of new fencing was put up, and 500 feet of old fencing repaired.

60. *Lahore Division.*—Here 25 square miles, about 6 per cent., were closed to grazing, and of lands made over to Military authorities for grazing, but closed to outsiders, 21 square miles. Forty-four square miles, or about 12 per cent., were closed to camels and goats only.

61. *Mooltan Division.*—In this big Division of 1,150 square miles only 86 square miles were absolutely closed to grazing. To some forests, camels and goats were barred entrance, while other grazing lands were closed during part of the year, but by far the greater portion of the whole area was leased under the Financial Commissioner's Circular No. XV of 1879. Ten miles of dry branch wattle fencing were put up, and 5 miles of double bar fencing were erected, along the south lines of reserves Barakotla and Vinoi. The former cost Rs. 12-8-0 per mile, the latter Rs. 63 per mile—an expenditure far too high to admit of its being continued, especially with such perishable material as inferior wood.

62. *Beas Division.*—Most of the reserved forests, or about 60 square miles, were closed to grazing, and 56 acres were added to the 342 acres already fenced off against grazing, and alluded to in para. 60 of the Report for 1881-82.

63. *Bashahr Division.*—About 1,800 acres, under 3 square miles, were closed to grazing, and fences erected round 1,300 of these acres, and 300 feet of stout fencing put up along both sides of village road which runs through a forest. Small areas in the forests denuded of trees were also closed to grazing.

64. *Phillour Division.*—All areas are open with the exception of the Jullundur, Phillour, Ludhiána, Jagádhri and a part of the Sabáthu plantations, aggregating 2 square miles. In the open areas, the permit system is adopted in the Kalesar forest and Sabáthu plantation; in other portions the rakhs are leased to contractors and to the Commissariat Department.

The department pays Rs 500 a year to the Military authorities for land at Sabáthu which is being planted up, and by sale of grazing and grass realized Rs. 479-4.

5.—Sowing and Planting.

65. Owing to changes among the annual returns now prescribed by the Forest Department Code, No. 46 of previous years appears in the statements as No. 50 of this year. A reference to old form No. 46 will show that after striking off 3,216 acres as unstocked in 1880-81, that year closed with a total plantation area of 17,127 acres. The year 1881-82, with an addition of 332 acres, closes with a total of 16,201 acres. For, following the course adopted in the preceding year of striking out all areas not fairly stocked, Pabbi in Gujránwála has been reduced by 1,258 acres, leaving only 200 acres on the return.

In other ways, too, the return now submitted differs from that of 1880-81, for several areas are now transferred to their proper heading "Cultural Operations." When the report for 1882-83 appears, more changes will have to be made, for the cultural operations at Bakloh and at Kálatop will have to be entered, while the 174 acres shown as in existence at Bassu and Dhauri will probably disappear in great part.

66. Much was done in 1880-81 in rectifying this return, and the actual condition of the various plantations and areas under cultural operations will be very carefully enquired into during the current year, and every endeavour made to frame an accurate return which shall afford a safe foundation on which future reports may be based. There is now in course of preparation in the Conservator's office a statement in which the actual expenditure on each plantation, large and small, is being entered, together with the area supposed to be stocked from the beginning. This statement, when ready, will be compared on the spot with the existing state of things, and the result reported and afterwards embodied in the returns for 1882-83. With these general remarks the work done during the year in each division will now be stated in the order adopted in form No. 50.

Plantations.

67. *Jhelum Division.*—At Bela Pira Ghaib blanks, over a total area of 8 acres in Block No. II, were restocked.

68. *Gujránwála Division.*—No additions made to existing areas.

69. *Lahore Division.*—Plantation Chánga Mánga. In compartment No. 1, 6,000 Sissu plants were put out to refill blanks in 3 acres. The work done was a success. In the canal belt 120 acres were trenched and sown, in part with Sissu, in part with Jhand. The area that could be watered thoroughly, 30 acres, succeeded well, in the rest seedlings died out after germinating. In Block IV, blanks in 600 acres were sown over, but with poor success from want of water. Five acres of nurseries were well stocked with young plants of Sissu, ready to fill up blanks in compartments to be felled.

Growth after fellings.—In compartment 1, in 1880-81 all saleable material was taken out, the operations being carefully carried out in different ways to determine the best method of doing so in future. Over some 63 acres the trees were stubbed out ; over some 18 acres they were cut flush with the ground The refuse left on the ground, and grass, was all burnt off, and in the spring of 1881 water was let in over the whole, and the Coppice growth that has sprung up is good. It has been decided that, except along water-courses, all trees over 18″ girth shall be stubbed out, and trees under that in girth shall be cut flush with the ground.

To test whether burning the refuse was or was not good, compartment No. 2 was not at first burnt over after cutting. It was found that not only was watering thereby interfered with, but that the new growth was checked, so in the end the whole was burnt over. Coppice growth has appeared but it is too early to state results.

In ten acres of compartments 93—95, root cuttings, which were planted out in July 1880, are now from 4 to 5 feet high.

70. *Watering.*—Much benefit resulted from the enlargement of the Gandian Rajbáha carried out the preceding year, and the Canal Department having agreed to the utilization of a small, and for some time disused, head above the Canal belt, it has been opened out. Rajbáhas and water-courses generally were cleared of silt and repaired. The total area watered was :—

1st Watering	...	6,209 acres
2nd „	...	1,851 „
3rd „	...	174 „
Total	...	8,234 acres.

71. The general appearance of the plantation is now satisfactory. Owing to timely and *plentiful* watering several compartments in Block II which looked sickly have recovered. At the end of May 1881 caterpillars appeared in compartments 52, 53 and spread over the plantation, attacking also the young Coppice, but they after a time disappeared; and the trees, throwing out new leaves, seem to be quite vigorous again.

72. In compartments 12, 13, 14, 15 and part of 16, and parts of 50 to 54, trees are dying out. No cause being apparent, excavations were made and the roots traced and examined. It was found that a layer of kunkur, the presence of which was suspected, did actually exist. But the roots of the trees had pierced the kunkur and gone below into sandy loam. In one instance roots were traced to a depth of 22 feet, and in another to a depth of 16 feet. No reason could be assigned for the death of the trees. All these areas had been watered.

73. The yield from material felled is entered in Chapter V, but it will be well to continue recording results per acre here, so as to compare them with the forecasts made in the report for 1880-81. In that report the result of working compartment No. 1 was as follows for a rotation of 11 years:—

Area	Cubic feet stacked.
85·32 ...	255,561
Outturn per acre ...	2,995
„ per annum ...	272
Equal to ...	68 maunds.

it having been found by experiments that 4 cubic feet, stacked, weighed almost exactly one maund after the fuel has been drying for some time.

In 1881-82 clear fellings were made over 295 acres, resulting in an yield of 569,624 cubic feet. Then comparing the two years, the result is that the average outturn for 1881-82 is only a little over 175 cubic feet.

Area	Cubic feet stacked.
295 ...	569,624
Outturn per acre ...	1,931
„ per annum ...	175
Equal to nearly ...	44 maunds.

For safety's sake the average of 272 cubic feet per acre, per annum, was in the forecast reduced to 200. This was well, judging by the results of 1881-82 which are 175 cubic feet per annum, giving for the two years, 272 + 175 = 447 ÷ 2 = 223 cubic feet.

74. The payment for water was heavy, as the rent for 1880-81 was not paid till 1881-82; the latter year being thus debited with the expenditure of two years.

75. Various interesting experiments were made at Chánga Mánga to test the yield per acre felled under different systems, the wood being cut into billets 5′ and 2½′ in length.

(*a*). Cutting all trees at ground level.

(*b*). Stubbing out all trees.

(*c*). Cutting trees under 18″ girth flush with the ground, and stubbing out those over 18″ girth.

(*d*). The necessary labour and its cost for each system.

(*e*). The proportion of the tree (in stubbed land) under ground, to its whole bulk.

76. The result was that the saving in cutting flush was greater than the sum realized by the sale of the extra quantity of wood got out by stubbing. This, taken alone, would go to show that flush cutting should be adopted, but one experiment is not sufficient, and it is probable that the reproduction from stubbed roots will be larger and more sure. In experiment (*e*) the proportion was found to be about one-ninth.

77. *Shahdara plantation*, including Shahdara, Jugian and Mahmúd Búti.—No additions were made. Dead wood was cut out and sold at an unusually high rate or Rs. 6-1-0 per 100 cubic feet. In the Jugian block several of the older trees are dying out, and it is suggested that on Sailaba land, Sissu may attain its maturity at an early age, the trees being now about 16 years old. No additions were made to Nag or to the Carob plantation. The details of work done in the latter will be found under the head "experiments," para. 93.

78. *Beas Division.*—The details of work done will be found under head "experiments," para. 93.

79. *Phillour Division.*—At Sabáthu the experiments with Carobs and Choi are mentioned in para. 93 under "experiments." The other operations at this plantation were very varied. The report for 1880-81 gave the area of the plantation at 15 acres. The stocked area is now reported as 35, or an addition of 20 acres during the past year. The chief tree grown here is Chíl (Pinus Longifolia). Seed was sown in patches worked in the soil at regular intervals. When the seed had germinated fire had to be guarded against, and yet the seedlings had to be protected from frost. This was successfully accomplished by tying the standing grass in conical caps over each plant, all the intervening free grass being sold to and removed by a contractor. Over the whole area of the plantation there are now rather more than 60,000 living healthy Chíl trees, which at 1,740 to the acre gives 35 acres stocked.

In addition to the Chíl, seeds of Sanatha, Phulai and Bakain were sown along 7 miles of inspection paths, also among the Chíl, and the seeds have germinated. More seed was also sown broadcast and has germinated; in fact, everything was done to cover the ground, but no land is counted as stocked till it is fairly stocked with Chíl. In addition to the above work the following trees, inclusive of the Carobs mentioned in para. 93, were planted out along the sides of the Circular Road and in hollows near it and within the forest boundary. Those planted as avenues were surrounded with loose stone walls. Tún, Kikar, Ritha (Sapindus detergens), Walnut, Carob, Tallow, Shisham and Bakain—9,228 in all. In addition Mango seeds were sown round the Circular Road by the Forest chaprasís, who also, during the frosts, covered them with grass caps. The result has been that 500 healthy young Mango trees were raised at no expenditure whatever. Chíl was also raised in a nursery to fill up blanks hereafter. Mr. Down's work at Sabáthu may thus be considered satisfactory.

80. In the Ludhiána plantation the produce of 40 acres was sold in 1880-81 to the Sind, Punjab and Delhi Railway, the whole tree being stubbed out. The growth of grass over the whole area was so heavy, and so retarded the young coppice growth, that it all had to be cut and removed. Since then the growth has improved.

(SUB-HEAD) *Cultural Operations.*

81. *Hazára Division.*—It is reported that the young Deodar plantings, which did well in 1880-81, have "been entirely destroyed by wild pigs and snow rats." A little seed of Sanatha, Phulai and Khair was sown, but no areas are shown for this Division in Form No. 50.

82. *Rawalpindi Division.*—The Pesháwar Jhíl Establishment was kept up. Practically nothing was done in planting work.

83. *Gujránwála Division.*—The chief cultural operations of the year were carried on in the reboisement area of the Pabbi reserve. No new areas were taken in hand, that in the Pabbi being a part of what was already included in Form 46 last year.

The area operated upon was confined to the block between the Railway and the Grand Trunk Road, estimated at 200 acres. Work began on the 30th June immediately after the first shower of the monsoon, and was continued without interruption till very late in the season, 18th August, in order to complete the whole area.

The methods employed were :—

(*a*) A combination of trench and ridge, trenches of 1½′ deep with the excavated earth formed into a ridge on the low side, both ridge and trench being sown ;

(*b*) prepared lines, in which the soil was simply worked up, not taken out ;

(*c*) patches : refilled holes of 1 to 1½ feet cube ;

(*d*) mounds ;

(*e*) plough cultivation;

a and *b* were employed on the more level ground between the ravines ;

c where *a* and *b* were impracticable, for instance on the slopes of the ravines ;

d behind the bunds, often during the rains in standing water.

e on level ground, as an experiment.

In addition to the above, Phulai seed was sown on the sides of the bunds, and Sanatha raked in on the sides and top and on the sides of the ravines on rainy days, and scattered on every spot where there was any possibility of its germinating.

The real task in places like Pabbi, where the rainfall is not only small, and distributed often over two or three months only, but where what does fall quickly runs off, is not simply to secure germination, which is comparatively easy in the rains, but to keep the seedlings alive after they have come up, when the dry season sets in, and to ensure success with a scanty as well as a plentiful rainfall. It was anticipated that the plan of sowing in the trench as well as on the ridge would effect this. It was thought that a heavy rainfall, beneficial to the seedlings on the ridge, might kill those in the trenches, and a light rainfall, insufficient for those on the ridge, might yet suffice for those in the trench. Both were not required, so that if either succeeded it was all that was necessary. The result shows that the expectations in this respect were not without foundation. In some places the ridges have succeeded and the trenches failed, in others the opposite is the case, while in others, again, both have succeeded.

The rainfall during the operations and up to the end of March was :—

June	...	...	2·6	Total 25·3 inches.
July	...	...	3·4	
August	...	...	10·6	
September	...	...	2·2	
October	...	...	0·3	
November	}	...	...	
December	}			
January	...	...	4·3	
February	...	...	1·4	
March	...	...	0·5	

while after the operations were concluded on the 18th August, the young seedlings only received 7·9 inches during 4½ months.

84. The retaining dams in the ravines were kept in constant repair. During the season almost every one was breached once at least, and some more than once. Altogether 4,396 were repaired at a cost of Rs. 233. These dams are the most costly part of the cultural operations in Pabbi, and can never be carried out over the whole area.

85. Reviewing the operations at the end of the year they must be looked upon as more than fairly successful; as yet they are far above the results obtained in any previous year and are encouraging.

The success is attributable :—

1st. To careful supervision both on the part of the Divisional Officer as well as on that of Ghulam Muhammad, the Forester, under whose immediate charge the work was carried out, and who deserves credit for the result attained.

2nd. To favorable rain at the time of sowing—a very important factor.

3rd. To a plentiful use of seed.

4th. To the methods employed.

5th. To the action of the retaining dams.

86. Of the methods employed the combination of trench and ridge has been by far the most successful. The prepared lines and patches failed after the drought set in. The mounds, where not washed away with the bunds, were exceedingly good and have maintained themselves. Plough cultivation is the system on which previous operations have generally been carried out, it is cheap but not reliable. The experiment, however, has so far succeeded very well.

In the first instance everything germinated, and in August, September and the early part of October the area was covered with millions of young seedlings in trenches, in patches and on ridges, at distances of 6 to 12 feet apart. The small rainfall of September, 2·2 inches, and of October, 0·3 inch, coupled with the total failure of rain during November and December, soon, however, began to tell. The patches were the first to suffer, then the prepared lines, while seedlings in both ridges and trenches looked well and are only now beginning to fail. This failure is partly also due to the ravages of a species of grub, which attacks the roots and gnaws them through, thus causing the death of thousands of young plants. Specimens have been kept for identification.

The total cost of the operations has been Rs. 925, of which, as before remarked, the repairs to bunds form a large item, Rs. 233. Deducting this, the expenditure on simple sowing, preparation of the ground, collection of seed, &c., has reached only Rs. 692.

Some petty work, such as sowing of spoil banks of demarcation trenches, in the Phalian Rakhs, Kikranwali and Chichra was also carried out.

The same remark applies to the guards' gardens or nurseries in Kikranwali and Chichra which have been formed by the guards themselves.

87. The area of the Pabbi reboisement plot has been reduced, in form 50, from 1,458 to 200 acres, the area operated on during the year under report, simply because there is now no trace of any trees on the larger area.

88. *Chamba Division.*—1,000 deodars and 920 walnuts were planted out in the Purti forests from the Bara Bhambal nursery. At *Kálatop*, on the Ravi side 6,425 deodars were planted out from nurseries and have thriven well. The

cost of planting at Kálatop is heavy, so an experiment suggested by Major van Someren was carried out in November last. Deodár seed was sown in worked earth in small patches. About 400 such were made in four compartments and sown with 5 or 6 seeds each. In those parts where the ground was exposed to the sun, and the soil stiff and clayey, scarcely any seeds germinated; in other parts where soil was lighter and the ground more shaded germination was good. In compartment 3, the seed in 97 out of 110 patches germinated freely, and if the young plants pass safely through the months of May and June, they will doubtless succeed in growing into trees. The expenditure on this experiment was insignificant. The natural reproduction of Chíl in the fenced portion of the Bakloh forests is good.

89. *Lahore Division.*—Here in Rakh Kot Lakhpat, about 140 acres were resown with Jhand, Reru and Ber, and watered from wells. The success has been fair over about half of the area resown.

At the suggestion of the Inspector General, who visited the rakh in November 1881, 110 acres were resown on ridges, and pits 3′ in diameter and 3′ deep were dug in about 11 acres (217 to the acre), and the seed germinated well. Some land was ploughed and sown with Jand in 1880-81 by Mr. Vincent. The experiment failed altogether, everything dying out during the past year. This confirms the opinion that plough cultivation for tree seeds will not succeed. By experiments made it was shown that Kikar plots whether watered or not watered during winter suffer equally from frost. As Jand coppices freely after being stubbed out, root cuttings of Jand were planted out over a rood of ground, the sets being placed both vertically and horizontally. The experiment is still in progress.

90. *Mooltan Division.*—Rakh Okára. Some insignificant experiments were tried here, but the rakh (4,097 acres) is reported as one that from its situation, only 5 miles from the railway, and the description of its soil, offers a fair prospect of success if taken in hand systematically as a plantation. It will be inspected by the Conservator with a view to settling the matter.

91. *Beas Division.*—In Kulu about 90 acres were sown and planted with deodar during the year. In Núrpur range 2½ acres were sown with Chíl in Bindraban Reserve. In Dhamtal Reserve Tún and Sissu were planted out, but failed, while 200 bamboo stumps which were also put out succeeded.

In the *Dera Range* various cultural operations were carried out with very partial success.

In the *River Range*, an acre of land in the Gagrewál rakh was sown with Kikar and is doing well; while Sissu sown in the Bágarián plantation was carried away by an inundation of the river.

92. *Bashahr Division.*—Here advantage was taken of the abundant crop of deodar seed to sow largely in forests where natural reproduction was slow:—

East Nachar	...	...	10 acres.
Sapni	...	...	180 „
Runang	...	...	16 „
	Total	...	206 „

The mode of sowing was simple. At intervals of from 6 to 10 feet the earth was worked to a depth of six inches, seed thrown in and lightly covered. All shady plots were taken advantage of. The result has been very successful so far. This experiment is similar, but on a far larger scale, to that at Kálatop. With the object of turning the mixed forest of Tranda into a deodar forest about 50 acres were taken in hand and all the blue pine, spruce and other fir saplings were thinned and larger trees ringed.

6.—Experiments.

93. *Leguminosæ.*

Carobs (Ceratonia siliqua.)—At Chánga Mánga, trees from seed sown in 1876, are now from 6 to 12 feet high. They look healthy and flowered for the first time in December 1881, and the pods set well. About 3½ lbs. weight of seed, sent by the Horticultural Society, were sown during the year. Up to date only 20 plants have shown themselves above soil. At the Carob plot in Lahore, there are 500 young plants in pots, and 80 planted out; all look healthy. At Sabáthu 300 seedlings were raised and pricked out, when 4 feet high, into transplant beds in March. They are being planted out now in depressions near the Circular Road. A number of plants put out last year are thriving fairly.

Prosopis glandulosa.—From seed, sown in 1876 at Chánga Mánga, a few trees are now alive and are about 8 feet high; they have flowered and seeded yearly since 1879-80.

Acacia Farnesiana and A. pubescens are growing at Chánga Mánga, but it is not very obvious why these thorny shrubs are being tried there. At Sabáthu, Khair (Acacia Catechu) was sown in ravines and gullies, but failed. This tree need hardly be tried here again. Some Phulai (A. modesta), also sown broadcast, germinated. *Choi*, sown in beds in April 1881, germinated, and 400 young plants were put out in depressions near the Circular Road, and are doing well. The Conservator has not seen the tree, nor is the native name known to him.* The Divisional Officer says that he thinks it is Albizzia procera, but as he also reports that the leaves close when touched, it cannot be that tree.

Australian Acacias.

A. melanoxylon.—The few trees in the nursery at *Bakloh* (Chamba Division) are reported as not having made much growth. If seed can be obtained, experiments will be made this year in growing A. melanoxylon in furrows *in situ*. It is a handsome tree, grows fast at 6,000 feet altitude on the *Neilgherry* Hills and yields good fuel. It ought to succeed at Bakloh.

From Beas Division (Kulu) the report is that A. melanoxylon is growing slowly; that a few specimens of A. decurrens are doing well, and that A. dealbata is making fair progress. A. pyrnantha is doing fairly well.

Myrtaceæ.

Eucalypti.—From Bakloh E. resinifera is reported as "doing pretty well."

At *Chánga Mánga*

E. rostrata thrives better than any of the other species, and seems to be less attacked by white ants. Trees, from seed sown in the spring of 1879, are now 15 to 18 feet high.

E. Citriodora doing very well.
„ Microcorys „
„ Culossea „
„ Pilularis „
„ Siderophloia does well.
„ Amygdalina „
„ Goniocalyx not thriving, suffers from the heat.
„ Resinifera has died out.

Three trees (species unknown) flowered and seeded this year. The Assistant Conservator kept specimens and the name will be determined.

About 1,600 trees were planted out along the Chunián road, of which only 300 are now alive, most of them being citriodora.

* He cannot find it in either Brandis or Stewart.

Twenty-two kinds of Eucalyptus were sown in the autumn of 1881, and by spring some 4,000 seedlings from 6" to 1' in height were in the beds.

At Sabáthu Eucalypti have failed. From the Beas Division (Kulu) it is reported that

E. Stuartiana is healthy but not growing fast.

„ *Goniocalyx.*

„ *Viminalis.*

„ *Meliodora.*

„ *Polyanthemus.*

„ *Sideroxylon.*

„ *Oliosa.*

„ *Fissilis.*—Strong and made good progress.

„ *Globulus.*—Healthy and made good progress but much bent down by snow.

European and Tasmanian trees—Spanish Chestnuts.—Five of the older trees died at Kilba on the Sutlej, and 30 new ones were planted out. There are now 46 at Kilba and 28 at Nachar. Some of the older trees fruited but the burrs were empty. Seeds sown at Chamba all failed, apparently from being received too old and rotten.

Cork Oaks in Kulu are doing well and so are *Olives* from France.

Catalpa Bignonioides continues to do well at both Chánga Mánga and Kulu.

Forty-six ashes were planted out at *Kilba* on the Sutlej, and at *Kulu* oaks, limes, maples, elms, larches and the Lombardy poplar are doing well. At Kulu, the Tasmanian Blue gum (Cupressus Macrocarpa) is also reported to be thriving.

In the *Chamba Division*, at Khirkigalli within the Municipal limits of Dalhousie, a small plot of ground with a few English oaks and elms was taken over by the Forest Department. The trees, which were dominated by weeds and long grass, were cleared and the plot fenced in.

At Ghoragali in the Rawalpindi Division there are some English Oaks, Mountain ash, Elms and Spanish chestnuts, 96 in all, and 41 Eucalypti. The latter, six years old, are about 23 feet in height.

7.—Roads and Bridges.

94. *Hazára Division.*—Seventeen miles of the Natiagali-Thandiáni road were constructed, thus completing the whole distance, 21 miles, at a total cost of Rs. 1,405, or about Rs. 67 a mile.

95. *Rawalpindi Division.*—Old roads repaired and 5 miles of the Ghoragali-Kror road completed.

96. *Gujránwála Division.*—A path 15' broad and a mile long was opened through the Kikránwáli reserve.

In the *Lahore Division*, repairs of existing roads and construction of small bridges where necessary.

97. *Chamba Division.*—Several new inspection paths were cut through the Kálatop forest, and the old roads, which were much in want of repair, put into good order. The Kainthli forest road about 2 miles was put into proper repair. On the Pangi side 45 miles of roads were repaired at a total cost of Rs. 400.

98. In the *Mooltan and Beas Divisions*, repairs, and in the latter some rocks that interfered with floating on the Sainj stream, were removed by blasting at a cost of Rs. 116.

99. In *Bashahr*, a temporary bridge was thrown across the Sutlej at Kilba, and 13 miles of bridle paths were cut to facilitate inspection of forests. Wooden slips for the carriage of timber were constructed in the following forests:

West Nachar, 3 slips, 325, 300 and 155 feet, respectively.

Teuden, 3 slips, 308, 260 and 150 feet in length, respectively.

Wasankan, 1 slip, 240 feet.

The following earth slides were also made :—

At West Nachar	1,200 feet
Lower Panwi	600 „
Wasankan Tikru	300 „
Purbni	2,000 „
Runang	100 „

All old slides were repaired.

In the *Phillour Division* 6¾ miles of footpaths were made to facilitate planting operations in the Sabáthu Cantonments.

8.—Buildings.

100. In the *Rawalpindi Division* out-houses were put up at the Ghoragali house.

In the *Gujránwála Division* the house at Banni, taken over from the Railway Department, was put into proper repair at a cost of Rs. 855.

In the *Chamba Division* the Mádhopur house roof was re-thatched and other repairs executed.

In the *Mooltan Division* two huts for subordinates were built in the Mailsi Sub-Range, and good progress made with three more in Sarai Sidhu.

Two huts were also erected in the *Beas Division*; and in the *Bashahr Division* a wooden hut for the forester was built at Cholling, the Simla Forest hut re-roofed in part, and the roof of the Nachar Office repaired. Other minor repairs were carried out in all the Divisions.

CHAPTER V.—YIELD AND WORKING.

1.—Departmental Operations.

101. Abstracts are here given of the detailed statements published in the Appendix.

A.—Trees felled during the year.

Division.	Deodar.	Pines.	Blue pine.	Other trees.	Total number of trees felled.
Hazára	1,000	...	...	326	1,326
Rawalpindi	...	487	...	...	487
Chamba	1,406	299	...	16	1,721
Beas	104	132	...	...	236
Bashahr	2,043	...	27	...	2,070
Total ...	4,553	918	27	342	5,840

B.—Timber received in Sale Depôts from the forests during the year.

Division.	Deodar logs.	Pine logs.	Miscellaneous logs.	Sleepers	Other pieces.	Scantlings.	Total.	
							Pieces	Cubic feet.
Rawalpindi ...	...	...	...	...	...	7,816	7,816	...
Jhelum ...	1,990	1,127	...	...	498	1,232	4,847	90,066
Gujránwála ...	3,744	257	1	2,480	1,084	...	7,566	90,037
Chamba ...	2,543	2,290	...	11,308	1,439	10,429	28,009	131,090
Beas ...	768	471	7	3,206	50	1,935	6,437	56,280
Phillour ...	6,384	2,063	...	40	2,329	...	10,816	129,989
Total ...	15,429	6,208	8	17,034	5,400	21,412	65,491	497,412

Add.—Rawalpindi Division—Firewood ... ... 42,589 maunds.
" " Charcoal ... ... 11,554 "
" " Grass ... ... 167 "
" " Bamboos ... ... 18,232 pieces.
Lahore " Firewood .. ... 510,542 cubic feet stacked.
Beas " Bamboos ... ... 551,997 pieces.
Phillour " " ... ... 2,968 "

C.—Abstract of outturn of Timber and other produce cut and collected by Government Agency during the year.

Division.	Deodar.	Blue pine.	Sleepers.	Scantlings.	Miscellaneous.	Total.
Hazára	4	...	...	21,572	...	21,576
Rawalpindi	.	...	..	14,459	36	14,495
Chamba	7,653	..	29,031	6,981	...	43,665
Beas	603	...	1,625	2,412	2,421	7,061
Bashahr	9,974	144	...	...	509	10,627
Total ...	18,234	144	30,656	45,424	2,966	97,424

Add.—Hazára Division—Shingles ... ... 844,435 pieces
Rawalpindi " Firewood .. .. 43,138 maunds.
" " Charcoal ... ... 11,554 "
" " Grass ... ... 167 "
" " Brushwood . ... 2,655 "
" " Bamboos ... ... 16,662 pieces.
Lahore " Firewood ... ... 11 maunds.
" " " ... ... 533,208 cubic feet stacked
" " Grass ... ... 5 maunds.
Beas " Bamboos ... ... 222,891 pieces.

D.—1.—Timber removed from Depôts by Purchasers.

Division.	Deodar logs.	Pine logs.	Miscellaneous logs.	Sleepers.	Other pieces.	Scantlings.	Total	
							Pieces	Cubic feet.
Rawalpindi ...	...	...	...	...	...	5,258	5,258	..
Jhelum ...	2,048	1,138	...	...	495	1,239	4,920	91,394
Gujránwála ...	5,451	251	37	1,319	1,070	...	8,128	111,163
Chamba ...	2,543	2,228	...	613	1,439	9,287	16,110	89,848
Beas ...	566	325	5	3,463	44	2,189	6,592	49,020
Phillour ...	8,702	3,903	...	206	2,381	...	15,192	191,872
Total ...	19,310	7,845	42	5,601	5,429	17,973	56,200	533,297

Add.—Rawalpindi Division—Firewood ... ... 15,301 maunds.
" " Charcoal ... ... 9,364 "
" " Grass ... . 388 "
" " Bamboos .. .. 12,342 pieces.
Lahore " Firewood ... ... 589,284 cubic feet stacked.
Beas " Bamboos ... ... 550,506 pieces.
Phillour " " ... ... 3,830 "

D.—2.—Timber received from the Forests and sold locally during the year.

Division.	Deodar logs.	Pine logs.	Miscellaneous.	Sleepers.	Other pieces.	Scantlings.	Total	
							Pieces.	Cubic feet.
Hazára ...	4	...	3	...	...	21,259	21,266	23,316
Rawalpindi ...	...	...	...	...	924	2,358	3,282	...
Jhelum ...	21	...	...	...	...	...	21	1,190
Gujránwála ...	...	...	...	...	98	...	98	...
Chamba ...	395	20	...	...	1,123	1,093	2,631	15,699
Beas ...	77	6	2,949	...	...	2,221	5,253	5,438
Total ...	497	26	2,952	...	2,145	26,931	32,551	45,643

Add.—Hazára Division—Shingles ... ... 839,735 pieces.
Rawalpindi „ Firewood ... ... 11,386 maunds.
„ „ Brushwood ... ... 1,755 „
„ „ Bamboos ... ... 5 pieces.
Chamba „ Firewood ... ... 38,803 cubic feet stacked.
Lahore „ „ ... ... 11 maunds.
„ „ „ ... ... 10,481 cubic feet stacked.
„ „ Grass ... ... 5 maunds.

E.—Timber account of the year.

Receipts.	No.	Cubic feet.	Disposals.	No.	Cubic feet.
Balance at commencement of the year ...	15,865	147,390	Removed by purchasers.	56,200	533,297
			Sold locally ...	32,551	45,643
Received from the forests in depôts during the year.	65,491	497,412	Used by the Department ...	398	814
Received from the forests and sold locally during the year ...	32,551	45,643	Lost or written off as useless ...	23	589
Received from the forests locally and used by Department ...	313	350	Transfers among depôts ...	34	58
			Transferred to firewood.	62	418
Received by transfers among depôts ...	34	58	Transferred to other classes ...	74	641
Received by transfers from other classes ...	74	641	Balance at close of the year ...	24,986	110,034
Total ...	114,328	691,494	Total ...	114,328	691,494

102. To avoid misconceptions the remark is repeated from the report of 1880-81, that while the timber sold is always shown to the credit of the Divisions in which the Sale depôts are situated, that in the Jhelum depôts comes from Hazára, that in the Gujránwála depôts from Chamba, and that in the Phillour depôts from Bashahr.

103. The trees felled compare as follows with those of previous years :—

In 1879-80	...	...	...	...	4,777 trees
In 1880-81	...	...	...	...	4,988 „
In 1881-82	...	...	...	...	5,840 „

or an increase of 852 trees over the fellings of the preceding year. There is a small decrease in the number of deodars (72), while the increase is due to the fellings of 582 pines and other trees more than in 1880-81. Of the deodar extracted 1,280 were dead and fallen trees.

104. The increase in timber brought to depôt is 736 cubic feet, and the sales from depôts are larger by 57,089 cubic feet. A very large increase is shown in Phillour by sale of the Bashahr wood, and in Gujránwála by sale of Chamba (Pangi) wood, while there are large decreases in both Chamba (Ravi) and Beas. In Chamba the river Ravi has been cleared to a great extent of old wood.

105. In Hazára the launching operations were not large, owing, it is reported, to want of labor. It is also reported that at the end of 1880 the number of logs lying in the Kunhar River was 10,218, out of which number 3,052 were caught at Jhelum and Bagham up to the end of August 1881. There should then have been a balance of 7,166 logs in the river, but at the close of November 1881, there were between Malkundi and Salig Ram only 4,390 logs, and the Deputy Conservator adds—" thus some 2,776 logs have passed down towards the sea uncaught." This has been referred for further investigation, for such a large number of logs cannot have gone down unnoticed, and the statement, if correct, indicates the want of effective catching establishments.

106. In the *Chamba Division* 575 trees felled were converted into 2,275 logs and 4,975 broad-gauge sleepers in the Pangi range. On the Ravi the 657 dry deodar trees felled during the year, together with 81 felled trees on hand, yielded 23,392 sleepers, which were launched and are on the way to Shahdara depôt. Of trees felled in former years 434 were converted into 3,256 logs, leaving 221 trees still on hand.

In Kálatop forest 489 trees, chiefly firs, were converted into 6,941 scantlings.

107. In the *Beas Division* 603 logs of old dead and wind-fall trees were extracted from forests in Kulu. 3,133 deodar scantlings were sent down the river from Sandhar forest, and 3,632 were launched into the Tirth stream. The Beas river was twice cleared to a distance of 80 miles, 2,103 stranded logs being pushed off and much drift wood marked and floated off. The Parbatti stream was cleared to a distance of 45 miles and 719 stranded logs floated off, and drift wood marked. In Dera range 64 Chíl trees were converted into 1,186 scantlings and taken to the Beas where they were sold. In Núrpur range 551,917 bamboos were cut and taken to depôt.

108. *Bashahr Division.*—The timber operations of the year are shown in forms Nos. 58 and 59, but for facility of reference a supplementary statement is here given.

During the year the following trees were cut :—

Green deodar	...	...	...	...	1,598
Dry „	...	...	...	...	216
Wind-fall deodar	...	...	...	...	229
Blue pine	...	...	...	...	27
			Total	...	2,070
On hand from previous year		...	...	...	426
			Grand Total	...	2,496

Of these 2,180 were converted into 10,627 logs, leaving a balance of 316 deodar trees to be logged in 1882-83.

The following timber was launched :—

Deodar logs	9,864
Blue pine logs	1,128
Deodar scantlings	50
Total ...	11,042 pieces.

At the close of the year there remained in the forests :—

Deodar logs	4,165
Blue pine logs	252
Total ...	4,417

The average cubic contents per log was :—

Deodar	23·71
Blue pine	16·94

For the sake of comparison the cubic contents per log of the two previous years are given:—

	Deodar.	*Blue pine.*
1879-80	17·01	16·00
1880-81	12·67	15·73

The explanation for the increase is, that this year 4 per cent. of the timber bought out was in logs and 22 feet long, whilst in former years 12 feet was never exceeded.

During the floating season there were two high floods, which continued for some days sweeping the river of nearly all logs. Afterwards the floods were not so high and lasted only a short time. Many of the logs, launched during these, were consequently stranded, but were relaunched by gangs of coolies and "Mussuck" men who swept the river several times in the season.

The river and tributaries have been examined and the logs in them counted thus :—

River above Rámpur	1,600
Below Rámpur to Naila	100
Gunugád	80
Kandradgád	150
Lipigád	275
Total ...	2,205

The river forester and guards, assisted by two men, put the Government mark on 1,500 pieces of waif whilst floating down the river.

109. A quantity of material was collected and sold at depôts or locally, the details being given at foot of the tabular Statements B and D 1, and in Statement D 2.

110. In *Hazára* some half million more shingles were received than during 1880-81, and all were sold locally.

111. In the *Rawalpindi Division* there was a large decrease in the collection (51,000 maunds less), and in the sale (nearly 50,000 maunds less) of firewood. It is explained that the opening of the railway has brought so much firewood to Rawalpindi from Kohát and Attock that the departmental sales have fallen off greatly. The quantity of charcoal brought to Rawalpindi by rail makes it unnecessary for the department to provide any now. At Murree the quantity of firewood thrown into the open market is also increasing, but there the sale of charcoal is virtually a monopoly of the department. About 5,000 more maunds were supplied and nearly 6,000 more maunds sold than in 1880-81.

112. *Lahore Division.*—As suggested in the report for 1880-81, para. 102, the cuttings from Chánga Mánga plantation are now shown in this Section. But the anticipation that during 1881-82 "upwards of a million and a half of cubic feet" would be cut and stacked was not nearly reached. The actual quantity cut

and stacked according to the statements is 510,542 cubic feet, and the felling operations extended over a little more than 300, instead of over 800, acres. An additional quantity of 103,109 cubic feet was cut during the year, but not stacked. It will be stacked and sold during 1882-83.

2.—Material removed from the Forests by Purchasers.

113. The total quantities of material removed are abstracted and compared in the following table:—

Description of Material.		1880-81.	1881-82.	More.	Less.
Deodar trees	No.	173	277	104	...
Other "	No.	8,427	9,809	1,382	...
Poles and dry logs	No.	4,934	5,103	169	...
Firewood, cubic feet stacked		4,978,880	1,070,220	...	3,908,660
" maunds		...	104,711	104,711	...
Charcoal, "		168	7,318	7,150	...
Bamboos	No.	10,880	26,148	15,268	...
Coal	Tons	4,157	4,292	135	...

114. Taking the number of maunds of firewood sold at 4 cubic feet per maund, there is a total decrease of nearly 3½ millions of cubic feet sold. Of this decrease 3 millions, nearly, is due to short sales in the Mooltan Division, where the contractor for the supply of fuel to the Railway bought largely from private sources, whence he obtained fuel at cheaper rates than the Forest Department demanded. In Rawalpindi the decrease was half a million feet.

115. 3.—*Free Grants of Forest Material.*

Division.	Trees.				Remarks.
	Deodar.	Pines.	Other.	Total.	
Rawalpindi ...	...	764	10,462	11,226	The returns are submitted by Tahsildárs who also state that they gave away 17,284 head loads and pieces of wood.
Chamba ...	190	371	1,100	1,661	75 deodars were given to the Chamba State. The deodars given to villages (115) were dead trees. 1,100 poles were also given to the State and so were 292 of the pines.
Beas ...	421	21,417	440	22,278	206 deodars given to the Civil Department.
Bashahr ...	156	1,914	243	2,313	43 deodar trees and 113 poles, 169 pine trees and 1,745 poles, 12 fir trees and 231 poles.
Total ...	767	24,466	12,245	37,478	

The subject of free grants has been alluded to in Chapter I.

4.—Total of Material removed from Forests.

116. In the subjoined table the figures are compared with the preceding year:—

Description of produce.	1880-81.	1881-82.	More.	Less.
Trees and poles cut ... No. ...	56,633	58,507	1,874	...
Firewood, cubic feet stacked	5,958,158	2,169,962	...	3,788,196
Charcoal, Maunds	6,497	18,872	12,375	...
Bamboos	685,271	596,377	...	88,894
Coal ... ... (Tons) ..	4,157	4,292	135	...

The reasons for less collection of firewood have been already given in para. 114.

117. 5.—Foreign timber imported into British Territory.

River by which the timber was imported.	Territory from which the timber came.	*Deodar Logs.* No.	*Pine Logs.* No.	*Sleepers.* Pieces.	*Scantlings.* Pieces.	*Ballies.* Pieces.	*Bamboos, Scraps, &c.* Pieces.
Jhelum ...	Kashmir ...	5,906	1,038	7,456	37,419	199,032	12,562
Chenab ...	" ...	10,354	1,519	164,738	...	38,105	63,362
Ravi ...	" ...	4,174	...	7,880	66,611	7,136	52,339
Beas ...	Mandi and Kapurthala...	...	398	2,408	...	...	3,503
Sutlej ...	Native States	...	...	125,447	...	1,489	91,569
Total ...		20,434	2,955	307,929	104,030	245,762	223,335

The figures given compare as follows with those of the year 1880-81 :—

	1880-81.	1881-82.	More.	Less.
Deodar logs	46,946	20,434	...	26,512
Pine logs	7,336	2,955	...	4,381
Sleepers	270,021	307,929	37,908	...

118. In comparing the above figures with those of the timber removed from the Government forests, the following results are obtained :—

	Deodar logs No.	Pines No.	Sleepers No.
Timber removed by Government Agency from forests under British control ...	15,429	6,208	17,034
Imported from foreign territory	20,434	2,955	307,927
Total in 1881-82	35,863	9,163	324,961
Total in 1880-81	59,714	14,190	293,830
Increase	...	...	31,131
Decrease	23,851	5,027	...

119. The number of imported deodar logs has fallen off by 26,500, the decrease being a little more than the increase in 1880-81. The decrease in other woods is rather more than half of the increase of the previous year; this would seem to show that the imports of logs in 1880-81 were throughout abnormally high, and that the supply, while adjusting itself, has aided in keeping prices of timber low during the past year. On the other hand the number of sleepers imported rose by 38,000. A quantity of scantlings and ballies and bamboos were also imported during last year.

120. Compared with the produce of Government forests, the imported timber both in deodar logs and in sleepers was far greater, while the number of pines from British forests was about twice the number imported.

CHAPTER VI.—FINANCIAL RESULTS.

121. Full details of figures will be found in the Statements Nos. 53, 54, 55, 56 and 57 appended to this report.

122. The financial results of 1880-81 contrasted favourably with those of the preceding four years, and those of 1881-82, while showing a smaller surplus, are satisfactory.

Year.	Receipts.	Charges.	Surplus.
1880-81 ...	6,71,679	4,95,368	1,76,311
1881-82 ...	6,88,308	5,16,270	1,72,038

The gross revenue is higher by Rs. 16,629; the charges enhanced by Rs. 20,902 (which are nearly equally distributed between A Work, and B Establishment) ; the surplus is less by Rs. 4,273.

The value of the year's transactions was :—

	Rs.
Cash surplus	1,72,038
Difference of stock at sale depôts against the year ...	4,234
Value of year's transactions surplus	1,67,804

Comparing this with the transactions of the two previous years

1879-80	1,02,196
1880-81	1,96,142
1881-82	1,67,804

it shows a falling off of Rs. 28,338 from the value of 1880-81, which is accounted for thus.

123. In Lahore firewood fetched a better price than in the previous year, but this did not balance the loss occasioned by the low selling rates of timber from all the hill divisions, especially Bashahr, so that, although more was brought into depôts and much more sold than in 1880-81, both the balances in money and in stock are against the year. In Chamba expenditure under A I *a* "Timber removed by Government Agency" is high, even when allowance is made for the timber in transit.

The provincial expenditure on plantations was Rs. 12,000, and on "communications" Rs. 2,000 in excess of that of 1880-81.

124. It has been already stated that the produce of some of the hill divisions is sold in some of the plains divisions for convenience sake. For the purposes of interdivisional comparison the receipts and charges as shown below are redistributed. They stand thus :—

Division.	Receipts.	Charges.	Surplus.	Deficit.
Hazára	63,532	50,844	12,688	...
Rawalpindi	61,143	47,106	14,037	...
Jhelum	39,705	25,298	14,407	...
Gujránwála	87,404	20,288	67,116	...
Chamba	1,22,601	1,31,467	...	8,866
Lahore	76,032	47,696	28,336	...
Mooltan	61,813	20,992	40,821	...
Beas	65,526	56,684	8,842	...
Bashahr	96,029	55,178	40,851	...
Phillour	14,491	17,869	...	3,378
Direction	32	42,848	...	42,816
Total ...	6,88,308	5,16,270	1,72,038	...

125. The largest gross receipts are from Chamba, which, however, with a still larger expenditure shows a deficit of Rs. 8,866. During the year much demarcation work was done here and, in addition to the officers ordinarily employed in the Division, two forest officers throughout the year, and two civil officers for part of it, were employed in the Division and their pay and allowances debited to it. The survey of the forests demarcated will be carried out during 1882-83 and so the expenditure will be somewhat high. Again the Ravi is by far the most difficult of the rivers on which timber is floated in the Punjab and so rates are high, and in addition the Division has to pay the heaviest rent for its lease, or Rs 21,000 per annum, but all allowances being made the fact cannot be disputed that Chamba should be able to show a surplus instead of deficit. What Chamba Division requires has already been referred to in Chapter I.

126. Phillour shows a larger deficit than last year, but the Division is one in which there is much planting to be done, a lease charge of Rs. 4,663 to be met, and not much material that can be sold.

127. In accordance with the orders of Government the receipts and charges for the year are arranged below under the three main heads :—

	Receipts.		Charges.		Surplus.	Deficit.
		Rs.		Rs.	Rs.	Rs.
I. Departmental timber operations ...	I and III	3,78,903	I, III, V, ½ VI & ⅓ B.	2,71,120	1,07,783	...
II. Other revenue ...	II, IV & V	3,09,405	II, IV, ½ VI, IX and ⅓ B.	1,00,710	2,08,695	...
III. Formation, protection and improvement of forests ...	...	...	½ VI, VII, VIII and ⅓ B.	1,44,440	...	1,44,440
Total ...	...	6,88,308	...	5,16,270	1,72,038	...

The figures compare with the previous year as follows :—

	1880-81.		1881 82.	
	Surplus.	Deficit.	Surplus.	Deficit.
I Departmental timber operations ...	68,721	..	1,07,915	...
II Other revenue ...	2,46,734	...	2,08,627	
III Protection, improvement, &c.	...	1,39,144	...	1,44,504
TOTAL ...	1,76,311	...	1,72,038	...

Outstandings and Liabilities of the Department.

128. The department has no liabilities. The outstandings due by contractors and disbursers amounted to Rs. 17,569 at the commencement, and to Rs. 21,389 at the close of the year. The Conservator has drawn the attention of Divisional Officers to this matter.

Outstandings on account of Revenue.

129. These at the commencement of the year were Rs. 44,847, at the close of the year they were Rs. 20,556, a good reduction—

	Rs.
(*a*). Due by public departments	411
(*b*). „ „ the public, including grazing dues ...	20,145
Total ...	20,556

The grazing dues are not discriminated in (*b*) as the Comptroller General has not sent in the audited forms for March last to the Conservator. But the Rs. 20,556 include all outstandings of revenue.

G. J. VAN SOMEREN, MAJOR,

Conservator of Forests, Punjab.

SIMLA,

1st July 1882.

STATEMENTS.

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Reserved Forests, 1881-82.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1881. Equivalent in square miles	Added during the year. Square miles	Excluded or transferred to other heads. Square miles.	Area on 1st March 1882. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks
Hazara.	Hazára ...	Dungagali ...	63	...	...	63		
		Kághan ...	90	...	..	90		
		Siran Valley ...	33	...	.	33		
		Khánpur ...	50	...	...	50		
		Total ...	236	..	...	236		
Rawalpindi.	Rawalpindi ...	RAWALPINDI.						
		Márgalla ...	38	...	...	38		
		Baingala ...	1	...	...	1		
		Tamaira ...	7	...	..	7		
		Maira ...	2	...	...	2		
		ATTOCK.						
		Khermár ...	6	...	...	6		
		Kawagarh ...	7	...	...	7		
		FATAHJANG						
		Khairi Murat ...	29	...	...	29		
		Kaulhál ..	2	...	...	2		
		Gujar Khan-Baghám	12	...	...	12		
		Total ...	104	..	...	104		
Jhelum.	Jhelum ...	Salt Range ...	...	117	...	117	No. 359, dated 25th Augt. 1881	
		Islands on Jhelum	...	2	...	2		
		Total ..	...	119	...	119		
Gujranwala.	Gujrat ..	Gujrat Bakhs ..	2	..	...	2		
		Islands on Chenab...	2	...	...	*2		* 122 acres added by river action. 884 „ lost by do. 10 „ transferred to P N S. Ry. *Vide* Govt. No. 62, dated 17-2-82.
		Pabbi Forest .	39	.	...	39		
	Gujránwála ...	Gujránwála Plantations.	2	..	...	2		
		Total ...	45		...	45		
Chamba.	Chamba ...	Darwás ...	7					
		Kilár ...	8					
		Sánch ...	10	9	...	66		Under the Chamba lease and rules pursuant to it.
		Purti ...	17					
		Tindi ...	15					
		Kálatop ...	4	...	...	4		
		Kanthli ...	1	..	...	1		
		Bakloh ...	2	...	..	2		
		Bannikhet ...	1	...	..	1		
		Ravi Suil and tributaries.	150		...	150		
		Total ...	215	9	..	224		
		Carried forward	600	128	..	728		

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Reserved Forests, 1881-82—concluded.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1881. Equivalent in square miles.	Added during the year. Square miles.	Excluded or transferred to other heads. Square miles.	Area on 1st March 1882. Equivalent in square miles	No. and date of Notification of addition or transfer.	Remarks.
		Brought forward...	600	128	...	728		
Lahore.	Lahore ...	Chánga Mánga ...	28	...	...	28		
		Shahdara ...	2	...	...	2		
		Jhok ...	4	...	...	4		
		Sadhánwáli and Muzang.	1	...	...	1		
	Amritsar ...	Amritsar Plantations	3	...	...	3		
		Total ...	38	...	...	38		
Mooltán.	Mooltan ...	Sarai Sidhu ...	53	...	...	53		
		Lodhrán ...	10	2	...	12	No. 274 F, dated 6th June 1881	Jalálpur forests reserved.
		Mailsi ...	45	...	...	45		
	Montgomery ...	Montgomery ...	...	87	...	87	Notification No. 402 F, dated 22nd Septr. 1881	
		Total ...	108	89	...	197		
Beas.		Hoshiarpur.						
	Hoshiárpur...	Panjál ...	3	...	...	3		
		Lohara ...	7	...	...	7		
		Darni ...	5	...	...	5		
		Karnpur ...	6	...	...	6		
		Bindraban ...	4	...	...	4		
	Amritsar ...	Amritsar, Gagriwal	1	...	...	1		
		Gurdaspur.						
	Gurdáspur ...	Bagárián, Mullanwal	1	...	...	1		
		Kangra.						
	Kángra ...	Dera ...	17	...	...	17		
		Núrpur ...	16	...	...	16		
		Total ...	60	...	...	60		
Bashahr	Bashahr ...	Bashahr ...	135	...	...	135		
		Total ...	135	...	...	135		
Phillour.	Jullundur ...	Jullundur Plantation	1	...	...	1		
	Ludhiána ...	Ludhiána and Umballa.	1	...	...	1		
		Total ...	2	...	...	2		
		Grand Total ...	943	217	...	1,160		

Annual Form No. 49.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Protected Forests, 1881-82.

Division or Range.	Civil District or Territory.	Name of Forest.	AREA ON 1ST APRIL 1881.	ADDED DURING THE YEAR.	EXCLUDED OR TRANSFERRED TO OTHER HEADS.	AREA ON 1ST MARCH 1882.	No. and date of Notification of addition or transfer.	REMARKS.
			Equivalent in square miles.	Acres.	Acres.	Equivalent in square miles.		
RAWALPINDI ...	Rawalpindi ...	Kála Chitta ...	171	...	...	171	...	
		Total ...	171	...	...	171	...	
GUJRANWALA ...	Gujránwála ...	Gujránwála ...	140	...	...	140	...	
		Total ...	140	...	...	140	...	
		GRAND TOTAL ...	311	...	...	311	...	

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Unreserved Forests, 1881-82.

Division or Range	Civil District or Territory.	Name of Forest.	Area on 1st April 1881. Equivalent in square miles.	Added during the year. Square miles.	Excluded or transferred to other heads. Square miles.	Area on 1st March 1882. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks
Rawalpindi.	Rawalpindi ...	Various ...	374	...	...	374		
	Peshâwar ...	...	1	...	...	1		
		Total ...	375	...	...	375		
Jhelum.	Jhelum and Gujrat	Belás on Jhelum River	3	...	2	1	No. 359, dated 25th August 1881	Created reserved forests.
	Jhelum ...	Salt Range Rakhs ...	457	...	117	...	No. 359, dated 25th August 1881	Do. do.
					14	...	...	By correction of old records.
					15	311	No. 525 F, dated 21st December 1880, and No. 287 F. dated 21st June 1881	Relinquished during recent Settlement.
	Shahpur (Bhera)	Rakhs in plains ...	231	...	231	...	...	Transferred to Gujránwála Division.
	Shahpur (Khushâb)	Salt Range Rakhs ...	211	...	...	211		
		Total ...	902	...	379	523		
Gujranwala.	Jhang ...	Various ...	137	...	...	137		
	Gujránwála ...	Do. ...	91	...	...	91		
	Gujrat ...	Rakhs in plains ...	32	...	...	32		
	Chenab River Range.	Belás ...	12	...	...	12		
	Shahpur (Bhera)	Rakhs in plains ...	...	231	...	231		Transferred from Jhelum Division.
		Total ...	272	231	...	503		
Chamba.	Gurdáspur ..	Shahpur Kandi ...	21	...	...	21		
	Chamba Territory	Forest area in Chamba Territory	16	...	...	16		
		Total ...	37	...	...	37		
Lahore.	Lahore ...	Rakhs in Lahore Tahsil ...	33	...	...	33		
		Rakhs in Chunián Tahsil ...	173	1	...	174		687 acres resumed from the District. 50 acres granted to Wair Shah—*Vide* Financial Commr.'s No. 29, dated 3rd January 1881.
		Rakhs in Sharakpur Tahsil ...	115	.	...	115		
		Total ...	321	1	...	322		
		Carried over ...	1,907	232	379	1,760		

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Unreserved Forests, 1881-82—*concluded.*

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1881. Equivalent in square miles.	Added during the year. Square miles.	Excluded or transferred to other heads. Square miles.	Area on 1st March 1882. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks.
		Brought forward ...	1,907	232	379	1,760		
Mooltan.	Montgomery ...	Various Rakhs ..	861	...	88	773	No. 402 F, dated 22nd September 1881	87 square miles gazetted as reserves. 1 square mile (300 acres) granted—*Vide* Finl. Commr.'s No. 704, dated 7th Octr. 1881.
	Mooltan ...	Do. ...	*64	...	2	62	No. 274 F, dated 6th June 1881	2 square miles gazetted as reserves. * Area was erroneously shown as 44 square miles by the Divisional Officer in last year's return.
	Muzaffargarh ..	Do. ...	89	...	...	89		
	Dera Ghází Khan	Do. ...	29	...	...	29		
		Total ...	1,043	...	90	953		
Beas.	Hoshiárpur ...	Various ...	66	...	...	66		
	Kángra ...	Do. ...	460	...	...	460		170 square miles proposed as reserves, gazetted under Section 4, Notification No. 271 F, dated 8th Augt. 1880. 50 square miles proposed as reserves, gazetted under Section 4, Notification No. 217 F, dated 25th April 1881.
		Total ...	526	...	...	526		
Bashahr.	Bashahr ...	Various ...	34	...	...	34		
		Total ...	34	...	...	34		
Phillour.	Umballa ...	Kalesar ...	50	...	...	50		
	Jullundur ...	Sarangwál ...	...	...	...	...		250 acres only.
		Total ...	50	...	...	50		
		Grand Total ...	3,560	232	469	3,323		

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1881-82.

Division.	Name of Plantation.	On 1st April 1881.		Added during 1881-82.		On 31st March 1882.		Remarks.
		Area	Cost.	Area.	Cost.	Total Area.	Total Cost.	
		Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	
Jhelum	Bela Pira Ghaib ...	325	2,013	...	95	325	2,108	
Gujranwala	Belas Pindi Tatár & Nath	173	3,363	...	...	173	3,363	
	Sádhoke .	1	312	...	...	1	312	
	Thatta Faqirullah ...	393	3,671	...	...	393	3,671	
Lahore ...	Chánga Mánga ...	11,409	4,20,114	...	14,919	11,409	4,35,033	
	Shahdara, Jugian, &c.,	711	25,332	...	334	711	25,666	
	Jhok and Sadhánwáli	1,290	23,238	...	54	1,290	23,292	
	Nág ...	412	29,352	...	...	412	29,352	
	Muzang (Carob) ...	23	4,014	...	398	23	4,412	
Beas ...	Manáli Forest Garden	2	697	...	8	2	705	
	Lee ditto ...	4	952	...	49	4	1,001	
Bashahr ...	Sholtu ...	6	586	...	...	6	586	
Phillour ...	Jullundur ...	51	3,740	...	...	51	3,740	
	Phillour ...	239	13,892	...	...	239	13,892	
	Ludhiána ...	190	6,941	..	..	190	6,941	
	Sabáthu ...	15	4,289	20	2,813	35	7,102	
	Jagádhri ...	184	9,547	...	...	184	9,547	
	Total of Regular Plantations ...	15,428	5,52,053	20	18,670	15,448	5,70,723	
	Cultural Operations							
Hazara ...	Chánglagali ...	44	3,477	...	...	44	3,477	
	Kujagali ...	13				13		
	Kuthi ...	10				10		
Rawalpindi	Khairi Murat ...	...	*978	...	25	...	1,003	* This was shown under plantations in last year's form 46.
	Barakao ...	...	...	...	65	...	65	
	Peshawar Jhil ...	...	13,429	...	1,749	...	15,178	
	Ghoragali ...	...	...	...	4	...	4	
Gujranwala	Pabbi *reboisement* area	1,458	6,069	...	† 917	200	6,986	1,258 acres unstacked, hence struck off.
	Chichra ...	...	5,304	...	4	...	5,308	† This includes Rs. 36 spent in the Jhelum Division for collecting seed for Pabbi.
	Kikránwáli ...	...	4,389	..	12	...	4,401	
	Phalian Rakha ...	...	...	...	17	...	17	
Chamba ...	Pangi—various ...	...	3,676	...	7	...	3,683	
	Basu ...	149	3,234	...	...	149	3,234	
	Dhauri ...	25	165	...	..	25	165	
	Bakloh ...	...	...	...	158	...	158	
	Khirkigali ...	...	...	...	90	...	90	
	Kálatop ...	...	...	...	438	...	438	
Lahore ...	Kot Lakhpat ...	...	11,681	...	1,095	...	12,776	
	Experiments ...	...	882	...	...	...	882	
	Rakh Chandra ...	...	567	...	...	...	567	
Mooltan ...	Pakka Haji Majid ...	...	...	4	151	4	151	
	Okára Reserve ...	...	...	..	7	...	7	
Beas ...	Kulu Range ...	...	16,041	90	1,044	90	17,085	
	Núrpur ,, ...			4		4		
	Dera ,, ...			7		7		
	River ,, ...			1		1		
Bashahr ...	East Nachar ...	..	...	10	293	10	293	
	Sapni ...			180		180		
	Runang ...			16		16		
	Kunhi ...			...		...		
	Total Cultural Operations ...	1,690	69,892	312	6,076	753	75,968	

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1881-82—concluded.

Division.	Name of Plantation.	On 1st April 1881.		Added during 1881-82.		On 31st March 1882.		Remarks.
		Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
		Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	
	Failures.							
Lahore ...	Baoli Lekna Singh ...	...	30,448	...	37	...	30,485	
	Total of Failures...	...	30,448	...	37	...	30,485	
	Abstract.							
	Regular plantations ...	15,428	5,52,053	20	18,670	15,448	5,70,723	
	Cultural Operations ...	1,699	69,892	312	6,076	753	75,968	
	Failures ...	...	30,448	...	37	...	30,485	
	Total ...	17,127	6,52,393	332	24,783	16,201	6,77,176	

Note.—The closing balance of 1880-81 differs in expenditure from the opening balance of 1881-82; the latter being increased by Rs. 33,146 thus :—

Cultural Operations.

Rawalpindi Division	...	Rs. 13,429
Chamba "	...	" 3,676
Beas "	...	" 16,041

Form No. 51.

Forest Department, Punjab.

Area of Forest Tracts protected from fire during the dry season of 1881.

Division.	Forest tracts.	*Up to 15th June* 1881.		*During dry season of* 1881.				Total cost up to end of 1882.	Year in which protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Failures.	Actually protected.	Amount expended.			
		Acres.	Rs.	Acres.		Acres.	Rs.	Rs.		
Chamba	Bakloh and Bannikhet ...	1,920	27	1,920	...	1,920	8	35	1879-80	The Bakloh and Bannikhet forest roads are cleared of chil needles where they pass through forests to prevent fire spreading into them.
Beas	Parts of Lohara, Darni and Panjal	2,000	214	2,000	...	2,000	34	248	1875	
Phillour	Kalesar	...	...	3,000	...	3,000	509	509	1881-82	
	Total ...	3,920	241	6,920	...	6,920	551	792		

Charged in previous years	241
1881-82	551
Total ...	792

Annual Form No. 52.—[*Prescribed.*]

Forest Department, Punjab.

Prosecutions for breaches of Forest Rules during 1881-82.

Forest Division and Civil District.	Cases pending from 1880 81.	New Cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		*Convictions.*		*Acquittals.*		*Total.*		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Hazara Division.														
Hazára District ...	53	8	81	14	4	57	110	57	133	42	107	99	240	11
Rawalpindi Division.														
Rawalpindi District ...	22	2	39	48	6	95	117	44	150	33	191	77	341	40
Jhelum Division.														
Jhelum District ...	2	...	65	...	8	73	75	70	120	5	9	75	129	...
Shahpur " ...	...	...	6	...	2	8	8	6	9	2	5	8	14	...
Gujrat " ...	...	...	3	1	...	4	4	3	6	1	2	4	8	...
Jhang " ...	...	...	3	...	...	3	3	3	6	...	...	3	6	...
Gujranwala Division.														
Gujrat District ...	...	...	38	28	2	68	68	50	170	13	70	63	240	5
Gujránwála " ...	1	...	5	3	1	9	10	7	11	2	6	9	17	1
Shahpur " ...	...	...	6	...	2	8	8	4	7	4	15	8	22	...
Jhang " ...	...	...	1	...	...	1	1	1	1	...	...	1	1	...
Mooltan " ...	...	...	1	...	...	1	1	...	...	1	1	1	1	...
Chamba Division.														
Chamba State ...	4	2	5	3	...	10	14	3	3	5	6	8	9	6
Lower River Range ...	...	...	3	...	...	3	3	3	5	...	...	3	5	...
Gurdáspur District ...	1	...	3	...	...	3	4	3	3	1	2	4	5	...
Lahore Division.														
Lahore District ...	...	...	9	13	3	25	25	22	43	3	28	25	71	...
Amritsar District ...	...	...	...	1	...	1	1	1	4	...	1	1	5	...
Mooltan Division.														
Montgomery ...	24	9	7	...	11	27	51	18	36	27	59	45	95	6
Mooltan ...	2	1	2	18	6	27	29	13	17	3	7	16	24	13
Muzaffargarh ...	2	16	2	...	6	24	26	4	6	13	8	17	14	9
Dera Ghází Khan ...	...	6	1	...	3	10	10	3	5	3	3	6	8	4
Beas Division.														
Kángra ...	4	34	113	13	22	182	186	130	404	28	39	158	443	28
Hoshiárpur ...	2	4	10	...	1	15	17	15	65	2	5	17	70	...
Amritsar ...	1	...	11	...	...	11	12	11	18	1	1	12	19	...
Gurdáspur ...	...	...	2	...	...	2	2	1	3	1	3	2	6	...
Jullundur District (Kapurthala State)	...	...	1	...	..	1	1	1	1	...	...	1	1	...
Bashahr Division.														
Bashahr ...	11	10	6	1	10	27	38	29	33	3	3	32	36	6
Phillour Division.														
Jullundur District ...	7	...	6	...	...	6	13	5	10	7	14	12	24	1
Simla " ...	...	...	3	6	...	9	9	3	11	1	1	9	12	...
Total ...	136	92	382	149	87	710	846	515	1,280	201	586	716	1,866	130

Annual Form No. 53.—[*Prescribed.*]

Forest Department, Punjab.

Summary of Revenue of the different Divisions, 1881-82.

Budget Heads Receipts.	Direction.			Hazára Division.			Rawalpindi Division.			Jhelum Division.			Gujránwála Division.			Chamba Division.			Lahore Division.			Mooltan Division.			Beas Division.			Bashahr Division.			Phillour Division.			Total.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
I.—Timber and other produce removed from the forests by Government Agency:—																																				
a. Timber ...	...	...	..	13,846	14	3	8,260	10	11	32,704	2	2	69,610	6	6	44,559	1	2	0	12	0	...	...	..	41,094	8	10	...	...	...	95,938	14	7	3,06,015	6	5
b. Firewood and Charcoal ...	...	...	...	...	...	...	19 765	10	7	241	9	9	41	4	0	2,532	5	7	27.110	1	11	...	...	...	...	...	...	...	.	...	6	5	6	49,697	5	4
c. Bamboos ...	...	...	.	...	...	..	1.180	2	9	...	..	...	...	...	..	...	...	...	...	...	...	...	...	...	10,149	6	0	...	...	...	242	3	9	11,571	6	6
d. Sandal-wood ...	..	..	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	.	...	...	...	...	...	...	...	..	..	...	..	.
e. Grass and other Minor Produce	...	..	...	...	...	...	193	12	9	...	..	...	...	...	...	6	0	0	3	2	0	...	...	...	...	...	...	...	...	...	...	...	...	202	14	9
II.—Timber and other produce removed from the forests by consumers or purchasers:—																																				
a. Timber ...	...	...	...	1,377	0	0	2,241	13	1	...	...	...	...	...	..	148	0	0	264	4	0	23	9	1	4,760	0	7	...	...	...	156	6	9	9,187	1	6
b. Firewood and Charcoal ...	...	...	...	8,034	13	9	15,864	15	1	681	5	5	481	1	6	65	14	4	1,072	13	9	9,892	9	0	28	6	3	...	...	...	6,336	3	2	42 462	2	3
c. Bamboos ...	...	...	...	...	...	...	...	.	...	...	...	..	...	...	..	...	..	...	...	..	..	...	...	..	205	12	9	...	...	...	155	2	11	360	15	8
d. Grazing and Fodder Grass ...	...	...	...	5,671	0	4	9,204	5	0	17,617	12	9	83,559	7	1	...	...	...	42,754	11	9	44,682	3	8	4,963	7	6	...	...	...	8,166	10	6	2,11,619	10	7
e. Other Minor Produce ...	...	...	...	475	10	0	318	14	4	9,100	11	3	62	7	0	...	..	...	2,258	14	0	1,187	2	0	105	11	6	...	...	...	20	2	0	13,529	8	1
III.—Confiscated drift and waif wood	...	...	...	...	..	...	917	7	7	8,566	1	8	824	11	5	86	9	0	...	..	...	...	...	..	1,020	12	7	...	...	...	...	..	.	11,415	10	3
IV.—Revenue from forests not managed by Government:—																																				
a. Duty on Foreign Timber and other Forest Produce ...	...	...	...	...	...	...	...	...	...	2,478	0	10	2,023	0	3	2,688	11	2	...	...	...	...	..	...	1,516	12	9	...	...	...	1,663	6	0	10,369	15	0
b. Revenue from Shared and Private forests ...	...	...		508	4	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	944	7	0	...	...	...	...	...	...	1,452	11	9
V.—Miscellaneous:—																																				
a. Fines and Forfeitures ...	...	...	..	657	4	0	118	8	0	25	13	3	19	12	0	0	6	0	...	...	...	41	10	0	472	7	1	1	0	0	50	0	0	1,386	12	4
b. Refunds ...	6	0	0	6	8	0	...	...	...	111	1	10	143	4	4	46	7	5	0	11	5	0	4	7	0	3	1	90	0	0	2	0	0	406	8	8
c. Other Sources ...	25	14	3	8	6	0	3,076	13	10	1,124	8	7	289	6	3	2,811	5	0	2,566	12	6	5,769	14	5	264	14	9	...	...	...	2,691	10	0	18,629	9	7
Total Receipts ...	31	14	3	30,585	13	1	61,143	1	11	72,651	3	6	1,57,054	12	4	52,948	11	8	76,032	3	4	61,813	4	9	65,526	8	8	91	0	0	1,10,429	1	2	6,88.307	10	8

Calcutta,
The 19th June 1882.

A. L. HOME,
Assistant Comptroller General (Forests).

Annual Form No. 53—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Summary of Expenditure of the different Divisions, 1881-82.

BUDGET HEADS.	Direction.	Hazára Division.	Rawalpindi Division.	Jhelum Division.	Gujránwála Division.	Chamba Division.	Lahore Division.	Mooltan Division.	Beas Division.	Bashahr Division.	Phillour Division.	Total.
A.—Conservancy and Works.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—												
a. Timber ...	...	7,199 11 9	6 812 7 2	5,416 3 2	5 281 3 5	56,484 4 7	...	...	9,191 9 11	14,732 2 4	8,143 12 3	1,13,261 6 7
b. Firewood and Charcoal ...	...	...	20,233 0 2	...	0 2 6	4 10 0	4,839 3 11	...	...	...	14 13 6	25,091 14 1
c. Bamboos ...	...	...	445 11 9	...	...	...	...	...	2,422 11 5	...	...	2,868 7 2
d Sandal-wood ...	...	...	17 15 6	...	...	...	...	...	...	...	...	17 15 6
e Grass and other minor produce ...	...	...	62 11 3	...	...	5 1 0	0 11 0	...	...	...	...	68 7 3
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS	...	114 2 6	245 3 3	143 1 2	74 7 0	...	22 8 0	130 15 6	...	...	151 5 0	881 10 5
III.—CONFISCATED, DRIFT AND WAIF WOOD ...	...	...	...	...	255 9 10	...	...	...	366 13 1	...	...	622 6 11
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT :—												
a. Duty on foreign timber and other forest produce ...	...	...	...	2,143 12 7	837 0 0	112 3 3	...	...	373 9 9	...	708 3 7	4,173 13 2
b. Revenue from shared and private forests ...	...	...	...	...	...	...	...	...	...	...	...	...
V.—RENT OF LEASED FORESTS AND PAYMENTS TO SHAREHOLDERS IN FORESTS MANAGED BY GOVERNMENT ...	...	6,200 0 0	...	...	...	10,500 0 0	...	...	1,791 8 0	10,000 0 0	4,663 0 8	33,154 8 8
VI.—LIVE STOCK, STORES, TOOLS AND PLANT—												
a. Purchase of Cattle ...	...	...	...	...	...	...	...	160 0 0	...	...	...	160 0 0
b. Feed and keep of Cattle ...	...	...	...	...	116 8 6	...	256 0 10	6 9 4	...	...	33 3 1	412 5 9
c. Stores, Tools and Plant ...	771 7 6	146 14 0	79 3 0	533 11 0	290 4 6	522 13 3	285 7 0	67 5 6	703 12 0	195 14 0	401 15 0	3,998 10 9
VII.—COMMUNICATIONS AND BUILDINGS—												
a Roads and Bridges ...	...	1,113 7 9	674 8 0	...	65 4 6	968 1 10	...	42 11 9	142 3 10	2,304 14 3	154 3 0	5,465 6 11
b. Buildings ...	...	474 2 3	351 5 6	407 6 2	918 0 6	481 4 11	268 9 3	312 14 0	544 14 1	703 15 6	301 6 6	4,763 14 8
c. Other Works ...	...	...	...	42 0 9	...	...	...	1 7 0	22 4 0	...	...	65 11 9

| | | |

Annual Form No. 54.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Account Current for the year 1881-82.

	Rs.	A.	P.	Rs.	A.	P.
To Cash Balance on 1st April 1881 ...	...	...	...	8,407	15	8
„ *Revenue as per Annual Summary (Form* 53) ...	...	...	...	6,88,307	10	8
„ *Service Funds*—						
Civil Fund, Ordinary (Bengal) ...	85	2	7			
Civil Fund, Additional do. ...	85	2	7			
Military Fund do. ...	243	0	0			
Military Fund Madras ...	1,549	11	7			
Military Orphan Fund (Bengal) ...	210	0	0			
U. S. F. Pension Fund do. ...	2,611	11	0			
				4,784	11	9
„ *Deposits* ...	...	...	...	1,185	0	0
Forest Cash Remittance (Local)—						
Forest Cheques drawn ...	5,12,769	0	6			
Inter-Divisional Transfers ...	1,071	7	1			
				5,13,840	7	7
„ *Advances recoverable* ...	...	...	...	2,34,855	11	1
„ *Suspense* ...	...	...	...	185	8	6
„ *Account Current (other Governments)*—						
Government of India ...	476	0	2			
Do. do. Bengal ...	200	0	0			
Do. do. North-Western Provinces & Oudh ...	10,576	5	9			
				11,252	5	11
„ *Inter-Departmental Transfers*—						
Public Works Department (P. N. S. Ry.) ...	32	6	11			
Do. do. (other Branches) ...	2,757	7	7			
Military Department, Bengal ...	180	0	0			
Civil Dept. { Mathematical Instruments Department Rs. 952 2 0						
Jails „ 1,242 10 0						
Miscellaneous „ 4 0 0						
	2,198	12	0			
				5,168	10	6
TOTAL ...	...	...	...	14,67,988	1	8

	Rs.	A.	P.	Rs.	A.	P.
By Expenditure, as per Annual Summary (Form 53) ...	...	...	...	5,16,269	10	5
„ *Deposits* ...	...		...	3,694	0	0
„ *Forest Cash Remittance (Local)* :—						
Remittances to Treasuries ...	6,47,830	8	9			
Inter-Divisional Transfers ..	1,071	7	1			
				6,48,901	15	10
„ *Advances recoverable* ...	...	...	...	2,38,675	5	6
„ *Suspense* ...	...	...	...	313	8	0
„ *Account Current (other Governments)* :—						
Government of India ...	2	7	0			
Do. Bengal ...	180	0	0			
Do. N. W. P. & Oudh ...	2,526	11	4			
				2,709	2	4
Inter-Departmental Transfers :—						
Public Works Department (P. N. S. Railway) ...	24,831	14	0			
Do. do. (I. V. S. Railway) ...	4,924	11	9			
Do. do. (Military Works) ...	15,302	1	5			
Do. do. (other Branches) ...	5,647	0	3			
Military Department Bengal ...	1,327	8	4			
Civil Department :—						
Jails Rs. 18 10 8						
Rewards for passing Examination „ 720 0 0						
Police „ 7 0 0						
Miscellaneous „ 275 9 10						
	1,021	4	6			
				53,054	8	4
Cash Balance on 31st March 1882 ...	...	...	...	4,369	15	4
TOTAL ...	...			14,67,988	1	8

CALCUTTA,
The 19*th June* 1882.

A. L. HOME,
Assistant Comptroller General (Forests).

Annual Form No. 55.—[*Prescribed.*]

Forest Department, Punjab.

Outstandings and Liabilities on account of Contractors and Disbursers for 1881-82.

Division.	Department Debtor.									Department Creditor.									Balance Due					Remarks.
	At commencement of year.			Recoveries in cash and value of supplies and work done during the year.			At close of year.			At commencement of year.			Payments made during year.			At close of year.			To Department (Outstandings).			By Department (Liabilities).		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.			
Direction	...	...	...	3,198	0	10	3,198	0	10	...	...	...	3,338	0	10	3,338	0	10	140	0	0			
Hazára Division	...	...	...	14,461	2	5	14,461	2	5	...	...	...	17,069	10	1	17,069	10	1	2,608	7	8			
Rawalpindi "	...	...	...	43,929	11	10	43,929	11	10	4,424	14	11	40,504	2	6	44,929	1	5	999	5	7			
Jhelum "	...	...	...	6,387	10	1	6,387	10	1	86	14	9	6,396	0	7	6,482	15	4	95	5	3			
Gujránwála "	...	...	...	5,226	3	2	5,226	3	2	3,130	8	10	4,866	2	3	7,996	11	1	2,770	7	11			
Chamba "	...	...	...	68,685	2	3	68,685	2	3	2,421 2,085	0 8	4 2	69,008	0	0	73,514	8	6	4,829	6	3			
Lahore "	...	...	...	27,093	9	3	27,093	9	3	1,216	7	11	28,074	1	9	29,290	9	8	2,197	0	5			
Mooltan "	...	...	...	7,565	2	1	7,565	2	1	458	9	11	7,471	15	9	7,930	9	8	365	7	7			
Beas "	...	...	...	38,238	13	9	38,238	13	9	2,615	4	9	39,242	6	0	41,857	10	9	3,618	13	0			
Bashahr "	...	...	...	5,592	15	2	5,592	15	2	...	...	...	7,864	7	5	7,864	7	5	2,271	8	3			
Phillour "	...	...	...	14,477	4	3	14,477	4	3	356	11	4	14,840	6	4	15,197	1	8	719	13	5			
	...	...	...	2,34,855	11	1	2,34,855	11	1	16,796	0	11	2,38,675	5	6	2,55,471	6	5	20,615	11	4			
	Transactions adjusted finally to Service Heads.																							
Lahore Division	...	...	...	...	...	...	...	...	...	582	0	0	...	...	...	582	0	0	582	0	0			
Mooltan "	...	...	...	...	...	...	...	...	...	190	15	0	...	...	...	190	15	0	190	15	0			
	...	...	...	...	...	...	...	...	...	772	15	0	...	...	...	772	15	0	772	15	0			
Total ..	...	...	...	2,34,855	11	1	2,34,855	11	1	17,568	15	11	2,33,675	5	6	2,56,244	5	5	21,338	10	4			

Calcutta,
The 19*th June* 1882.

A. L. HOME,
Assistant Comptroller General (Forests).

Annual Form No. 56.—[*Prescribed.*]

Forest Department, Punjab.

Revenue received and Outstandings on account of Revenue during 1881-82.

Division.	Particulars.	Outstandings at commencement of year.			Value of sales and other revenue during year.			Total.			Amount realised during the year.			Balance due to the Department at the end of the year.			Remarks.
		Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	
Direction ...	Miscellaneous ...	...	..	.	31	14	3	31	14	3	31	14	3	...	...	...	
Hazára Division ...	Timber and other produce, &c. ...	...	...	..	30,585	13	1	30,585	13	1	30,585	13	1	...	...	...	
Rawalpindi " ...	Ditto ditto ...	132	0	0	61,307	9	11	61,439	9	11	61,143	1	11	296	8	0	
Jhelum " ...	Ditto ditto ...	3,512	14	7	71,869	6	4	75,382	4	11	72,703	3	9	2,679	1	2	
Gujránwála " ...	Ditto ditto ...	16,328	10	2	1,50,084	6	5	1,66,413	0	7	1,58,079	12	4	8,333	4	3	
Chamba " ...	Ditto ditto ...	309	9	3	53,095	14	8	53,405	7	11	53,034	11	2	370	12	9	
Lahore " ..	Ditto ditto ...	11,151	7	0	(*a*)71,760	3	5	82,911	10	5	76,129	3	4	6,782	7	1	(*a*) Includes Rs 3,257-10-11 old outstandings, brought to notice after annuals were compiled.
Mooltan " ...	Ditto ditto ...	7,556	15	5	56,149	13	1	63,706	12	6	61,813	4	9	1,893	7	9	
Beas " ...	Ditto ditto ...	450	0	0	65,220	9	8	65,670	9	8	65,526	8	8	144	1	0	
Bashahr " ...	Ditto ditto ...	...	...	...	91	0	0	91	0	0	91	0	0	...	...	...	
Phillour " ...	Ditto ditto ...	5,405	4	5	1,05,523	4	9	1,10,928	9	2	1,10,872	1	10	56	7	4	
	Total ...	44,846	12	10	(*a*)6,65,719	15	7	7,10,566	12	5	(*b*)6,90,010	11	1	(*c*) 20,556	1	4	

	Rs.	A.	P.
(*b*) Revenue as per Form No. 53 ...	6,88,307	10	8
Amount written off under Punjab Government sanction ...	1,703	0	5
Total ...	6,90,010	11	1
(*c*) From other purchasers ...	20,144	13	4
Public Departments ...	411	4	0
Total ...	20,556	1	4

Calcutta,
The 11*th July* 1882.

A. L. HOME,
Assistant Comptroller General (Forests).

Annual Form No. 57.—[*Prescribed.*]

Forest Department, Punjab.

Financial results of the year 1881-82.

Division.	*Timber and other produce removed from the forests by Government Agency.*		*Other Revenue.*		*Formation, protection and improvement of forests.*	*Total.*		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Hazára	13,847	21,041	16,739	7,720	12,737	30,586	41.498	
Rawalpindi	30,318	32,802	30,825	5,680	8,624	61,143	47,106	
Jhelum	41,512	13,575	31,139	10,416	10.652	72,651	34,643	
Gujránwála	70,476	13,895	86.579	9,173	11,603	1,57.055	34,671	
Chamba	47,184	82,222	5,765	15,222	19,639	52,949	1,17,083	
Lahore	27,114	13,383	48,918	8,442	25,871	76,032	47 696	
Mooltan	...	5,751	61,813	5,942	9,299	61,813	20,992	
Beas	52,264	27,319	13,263	13,815	15,550	65,527	56,684	
Bashahr	...	29,035	91	4,464	7,679	91	41,178	
Phillour	96,188	17,686	14,241	5,617	8,567	1,10,429	31,870	
Total ...	3,78,903	2,56,709	3,09,373	86,491	1,30,221	6,88,276	4,73,421	
Direction ...	...	14,411	32	14,219	14,219	32	42,849	
GRAND TOTAL ...	3,78,903	2,71,120	3,09,405	1,00,710	1,44,440	6,88,308	5,16,270	

Form No. 58.—[*Suggested*].

FOREST DEPARTMENT, PUNJAB.

Trees felled by Government Agency during the year 1881-82 (*selection fellings*).

DIVISION.	*Trees felled.* Description.	Number.	REMARKS.
Hazára	Deodar	1,000	
	Biár	103	
	Paluddar	223	
	Total ...	1,326	
Rawalpindi	Chíl	487	
	Total ...	487	
Chamba	Deodar	1,406	
	Chíl	299	
	Tos	16	
	Total ...	1,721	
Beas	Deodar	104	
	Chíl	132	
	Total ...	236	
Bashahr	Deodar	2,043	
	Blue Pine	27	
	Total ...	2,070	
	ABSTRACT.		
	Deodar	4,553	
	Biàr	103	
	Paluddar	223	
	Chíl	918	
	Tos	16	
	Blue Pine	27	
	TOTAL ...	5,840	

Form No. 59.—[*Suggested*].

FOREST DEPARTMENT, PUNJAB.

Outturn of Timber and other produce cut and collected by Government Agency during the year 1881-82.

Division.	Produce cut and collected.				Remarks.
	How obtained.	Description.	Number or quantity.	Cubic feet.	
Hazara	Selection fellings ...	Deodar logs ...	4	281	
		Paluddar scantlings ...	17,446	18,360	
		Biár ditto ...	1,997	2,869	
		Paluddar shingles ...	513,000		
		Biár ditto ...	297,635		
		Total ...	830,082	21,510	
	Windfalls ...	Paluddar scantlings ...	1,970	1,830	
		Biár ditto ...	159	326	
		Paluddar shingles ...	33,600		
		Biár ditto ...	200		
		Total ...	35,929	2,156	
Rawalpindi ...	Selection fellings ...	Other scantlings ...	14,459		
		Posts ...	24		
		Door-frames ...	12		
		Total Timber ...	14,495		
		Bamboos ...	16,662		
		Firewood ...	43,138	...	Maunds.
		Charcoal ...	11,554	...	Do.
		Grass ...	167	...	Do.
		Brushwood ...	2,655	...	Do.
		Total ...	74,176		
Chamba	Selection fellings ...	Deodar logs ...	7,653		
		Do. sleepers ...	29,031	...	B. G. 24,120 N. G. 4,911
		Do. scantlings ...	3,539	4,249	
		Tos ditto ...	2,174	2,613	
		Chil ditto ...	1,228	2,396	
		Ash ditto ...	40		
		Total ...	43,665	9,258	
Lahore	Clear cutting ...	Firewood ...	...	416,770	
		Ditto ...	11 mds.	115,238	
		Ditto ...	...	1,200	
		Grass ...	5 mds.		
		Total ...	16 mds.	533,208	

Form No. 59—[*Suggested*].—*concluded.*

Division.	Produce cut and collected. How obtained.	Description.	Number or quantity.	Cubic feet.	Remarks.
Beas ...	Selection fellings ...	Deodar logs ...	603	17,242	
		B. G. sleepers ...	1,625	5,638	
		Other scantlings ...	2,412	1,725	
	...	Miscellaneous ...	2,421		
		Total Timber ...	7,061	24,605	
	Selection fellings ...	Bamboos ...	222,891		
Bashahr ...	Selection fellings ...	Deodar logs ...	8,206		
	Windfalls and Dry trees	Do. do. ...	1,768		
	...	Scraps ...	509		
	...	Blue pine ...	144		
		Total ...	10,627		
	Abstract.				
		Deodar logs ...	18,234		
		Blue pine logs ...	144		
		Deodar scantlings ...	3,539		
		Paluddar do. ...	19,416		
		Biár do. ...	2,156		
		Tos do. ..	2,174		
		Chil do ...	1,228		
		Ash do. ...	40		
		Other do. ...	16,871		
		B. G. sleepers ..	25,745		
		N. G. do. ...	4,911		
		Posts ...	24		
		Door-frames ...	12		
		Scraps ...	509		
		Miscellaneous ...	2,421		
		Total Timber ..	97,424		
		Firewood ...	43,149	...	Maunds.
		Ditto ...	...	533,208	Cubic feet.
		Charcoal ...	11,554		Maunds.
		Shingles ...	844,435		No.
		Bamboos ...	239,553		No.
		Brushwood ...	2,655		Maunds
		Grass ...	172		Do.

Form No. 60.—[*Suggested.*]

Forest Department, Punjab.

Timber and other Produce received from Forests in Sale Depôts during the year 1881-82.

Division.	Depôt.	Produce received. Description.	Number or quantity.	Cubic feet.	Remarks.
Rawalpindi ...	Rawalpindi City ...	Other scantlings ...	6,343		
		Door-frames ...	12		
	Rawalpindi Sadr ...	Other scantlings ...	500		
	Murree ...	Ditto ...	882		
		Bed poles ...	79		
		Total Timber ...	7,816		
	Rawalpindi City ...	Firewood ...	13,583	Mds.	
		Charcoal ...	611	"	
		Grass ...	167	"	
		Bamboos ...	12,938		
	Rawalpindi Sadr ...	Firewood ...	29,006	Mds.	
		Charcoal ...	1,707	"	
		Bamboos ...	5,294		
	Murree ...	Charcoal ...	9,236	Mds.	
Jhelum ...	Jhelum ...	Deodar logs ...	1,912	63,628	
		Pine logs ...	1,080	18,534	
		Other scantlings ...	1,198	81	
		Scraps and pieces ...	453	4,565	
	Chak Nizám ...	Deodar logs ...	44	1,089	
		Pine logs ...	43	907	
		Scraps and pieces ...	33	191	
	Khushâb ...	Deodar logs ...	34	913	
		Pine logs ...	4	83	
		Other scantlings ...	34	4	
		Scraps and pieces ...	12	71	
		Total Timber ...	4,847	90,066	

Form No. 60.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce received from Forests in Sale Depôts during the year 1881-82—(continued).

Division.	Depôt.	Produce received.			Remarks.
		Description.	Number or quantity	Cubic feet.	
Gujranwala ...	Jhikar ...	Deodar logs ...	3,685	73,547	
		Pine logs .	251	3,007	
		Broad-gauge sleepers ..	2,452	8,580	
		Scraps and pieces ...	1,070	3,695	
	Mooltan ..	Deodar logs ...	59	971	
		Pine logs ...	6	59	
		Ash logs ...	1	9	
		Broad-gauge sleepers ...	25	82	
		Narrow do. ...	8	7	
		Scraps and pieces ...	14	80	
		Total Timber ...	7,566	90,037	
Chamba ...	Shahdara ...	Deodar logs ...	2,543	37,928	
		Pine logs ...	2,290	32,359	
		Broad-gauge sleepers ...	10,195	37,703	
		Narrow do. ...	1,113	1,585	
		Deodar scantlings ...	3,488	10,507	
		Scraps and pieces ...	1,439	1,750	
	Kálatop ...	Deodar scantlings ...	3,539	4,249	
		Tos do. ..	2,174	2,613	
		Chil do. ...	1,228	2,396	
		Total Timber ...	28,009	131,090	
Lahore ...	Chánga Mánga ...	Firewood ...		478,282	
	Shahdara ...	do. ...		7,250	
	Jhok ...	do. ...		21,610	
	Sarai Amánat Khan ...	do. ...		3,400	
		Total Firewood ...		510,542	

Form No. 60.—[*Suggested.*]

Forest Department, Punjab.

Timber and other Produce received from Forests in Sale Depôts during the year 1881-82—(concluded.)

Division.	Depôt.	Produce received. Description.	Number or quantity.	Cubic feet.	Remarks.
Beas ...	Wazir Bhullar ...	Deodar logs ...	768	28,076	
		Pine logs ...	471	12,742	
		Walnut do. ...	3	17	
		Maple do. ...	4	29	
		B. G. Sleepers ...	3,206	11,125	
		Deodar scantlings ...	1,247	4,182	
		Chil do. ...	688	...	
		Scraps and Pieces ...	50	109	
		Total Timber ...	6,437	56,280	
	Dhamtal ...	Bamboos ...	51,758	...	
	Pandain ...	Do. ...	500 239	...	
		Total Bamboos ...	551,997	...	
Phillour ...	Phillour ...	Deodar logs ...	6,384	100,962	
		Other logs ...	2,063	28,902	
		Broad gauge-sleepers ...	35	70	Broken pieces.
		Narrow do. ...	5	5	
		Scraps and pieces ...	2,329	...	
		Total Timber ...	10,816	129,939	
		Bamboos ...	2,968	..	
	Abstract	of the circle.			
		Deodar logs ...	15,429	307,114	
		Pine logs ...	6,208	96,593	
		Deodar scantlings ...	7,027	14,756	
		Chil do. ...	1,228	2,396	
		Tos do. ...	2,174	2,613	
		Other do. ...	10,892	4,267	
		Broad-gauge sleepers ...	15,913	57,560	
		Narrow do. ...	1,121	1,597	
		Scraps and pieces ...	5,400	10,461	
		Maple logs ...	4	29	
		Walnut logs ...	3	17	
		Ash logs ...	1	9	
		Bed poles ...	79	...	
		Door-frames ...	12	...	
		Total Timber ...	65,491	497,412	
		Firewood ...	42,589	Maunds.	
		Do. ...	...	510,542	
		Charcoal ..	11,554	Maunds.	
		Grass ...	167	Do.	
		Bamboos ...	573,197	...	

Form No. 61.—[*Suggested.*]

Forest Department, Punjab.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1881-82.

Division.	Depôt or Locality.	Produce sold.			Remarks.
		Description.	Number or quantity.	Cubic feet.	
		Sold from Depots.			
Rawalpindi ...	Rawalpindi City ...	Other Scantlings ...	4,555	...	
		Bamboos ...	8,792	...	
		Firewood ...	3,627	Mds.	
		Charcoal ...	454	do.	
		Grass ...	388	do.	
	Rawalpindi Sadr ...	Other Scantlings ...	78	...	
		Bamboos ...	3,550	...	
		Firewood ..	11,674	Mds.	
		Charcoal ...	2,420	do.	
	Murree ...	Other Scantlings ..	546	...	
		Bed poles ..	79	...	
		Charcoal ...	6,490	Mds.	
Jhelum ...	Jhelum ...	Deodar logs ..	1,946	64,130	
		Pine logs ...	1,088	18,608	
		Other scantlings ...	1,205	98	
		Scraps ...	450	4,538	
	Chak Nizám ...	Deodar logs ...	48	1,132	
		Pine logs ...	45	979	
		Scraps ...	33	191	
	Khushâb ...	Deodar logs ...	54	1,552	
		Pine logs ...	5	91	
		Other scantlings ...	34	4	
		Scraps ...	12	71	
Gujranwala ...	Jhikur ...	Deodar logs ...	5,451	99,989	
		Pine logs ...	251	3,007	
		B. G. Sleepers ...	1,190	4,165	
		N. G. do. ...	129	172	
		Pencil Cedar ...	9	43	
		Tún ...	4	21	
		Ash ...	6	21	
		Walnut ...	18	50	
		Scraps and pieces ...	1,070	3,695	

Form No. 61.—[*Suggested.*]

Forest Department, Punjab.

Sales of Timber and other Produce—continued.

Division.	Depôt or Locality.	Produce sold. Description.	Number or quantity.	Cubic feet.	Remarks.
Chamba ...	Shahdara ...	Deodar logs ...	2,543	37,929	
		Pine logs ...	2,228	31,941	
		N. G. Sleepers ...	613	920	
		Deodar Scantlings ...	3,488	10,507	
		Scraps and pieces ...	1,439	1,750	
	Kálatop ...	Deodar Scantlings ...	3,620	4,468	
		Tos do. ...	1,924	1,994	
		Chil do. ...	255	389	
Lahore ...	Chánga Mánga .	Firewood ...	...	548,319	
	Shahdara ...	Do. ...	...	17,455	
	Jhok ..	Do. ...	...	20,110	
	Sarai Amánat Khan ...	Do. ...	...	3,400	
Beas ...	Wazír Bhullar ...	Deodar logs ...	566	23,228	
		Pine logs ...	325	9,141	
		Boxwood ...	5	5	
		B. G Sleepers ...	3,463	12,017	
		Deodar Scantlings ...	1,456	4,403	
		Walnut do. ..	28	71	
		Maple do ...	17	54	
		Chil do. ...	688	...	
		Scraps and pieces ...	44	101	
	Pandain and Dhamtal ...	Bamboos ...	550,506	...	
Phillour ,,	Phillour ...	Deodar logs .	8,702	133,172	
		Pine logs ...	3,903	57,991	
		Broad-gauge Sleepers ...	59	154	
		Narrow do. ...	147	195	
		Scraps and pieces ...	2,381	360	
		Bamboos ...	3,830	...	
		Sold Locally.			
Hazara ..	Kaghan Range ...	Deodar logs ...	4	281	
	Dungagali do. ...	Kalakath trees ...	3	...	
		Biar Scantlings ...	2,121	3,161	
		Paluddar do. ...	19,138	19,874	
		Biar shingles ...	297,635	...	
		Paluddar do. ..	542,100	..	

Form No. 61.—[*Suggested.*]

Forest Department, Punjab

Sales of Timber and other Produce—continued.

Division.	Depôt or Locality.	Produce sold			Remarks.
		Description.	Number or quantity	Cubic feet.	
Rawalpindi ...	Rawalpindi Range ...	Bamboos ...	5		
		Firewood ...	9,981	Mds.	
	Murree Range ...	Other scantlings ...	2,358		
		Bed posts ...	24		
		Firewood ..	1,904	Mds.	
		Brushwood ...	908	do.	
	Kahuta ...	Firewood ..	101	do.	
		Vargas ..	900		
		Brushwood ...	847	Mds.	
Jhelum ...	Bagham, &c. ...	Deodar logs ...	21	1,190	
Gujranwala .	Rámnagar ...	Scraps and pieces ...	98	..	
Chamba ...	Various ...	Deodar logs ...	895	13,101	
		Pine logs ...	20	364	
		Deodar scantlings ..	1,053	1,412	
		Ash do. ...	40	61	
		Scraps and pieces ...	1,123	761	
		Firewood stacks ...	244	38,803	
Lahore ...	Tera ...	Firewood ...	...	6,918	
	Chaudra ..	Do. ...	...	803	
	Rodeshah ...	Do. ...	...	2,760	
	Baoli Lehna Singh .	Do. ..	11	Mds.	
	Ditto ..	Grass ...	5	do.	
Beas ...	Nadaon and Naushahra	Deodar logs ...	77	3,659	
	Naushahra ...	Pine logs ...	6	198	
	Nadaon ...	Deodar scantlings ...	439	1,572	
	Naushahra ...	Do. ...	2	9	
	Dera and Guj ..	Chil scantlings ...	1,780	...	
	Various ...	Miscellaneous ...	2,949	...	

Form No. 61.—[*Suggested.*]

Forest Department, Punjab.

Sales of Timber and other Produce—concluded.

Division.	Depôt or Locality.	Produce sold.			Remarks.
		Description	Number or quantity.	Cubic feet.	
		Abstract of the Circle			
		Sold from Depôts.			
		Deodar logs ..	19 310	361,132	
		Pine logs ...	7,845	121,758	
		Walnut ..	18	50	
		Ash ..	6	21	
		Tún ...	4	21	
		Boxwood ...	5	5	
		Pencil Cedar ...	9	43	
		Broad-gauge sleepers ...	4,712	16,336	
		Narrow do. ..	889	1,287	
		Deodar scantlings ...	8,564	19,378	
		Chíl do. ...	943	339	
		Tos do. ...	1,924	1,994	
		Walnut do. ...	28	71	
		Maple do. .	17	54	
		Other do. ...	6,418	102	
		Bed poles ...	79	.	
		Scraps and pieces	5,429	10,706	
		Total Timber ...	56,200	533,297	
		Bamboos ...	566,678	...	
		Firewood ...	15,301	Mds.	
		Do. ...	...	589,284	
		Do. ...	1		
		Charcoal ...	9,364	Mds.	
		Grass ...	868	do.	
		Sold locally.			
		Deodar logs ...	497	18,231	
		Pine logs ...	26	562	
		Other scantlings .	2,358	...	
		Deodar do. ...	1,494	2,993	
		Ash do. ...	40	61	
		Chíl do. ..	1,780	...	
		Biár do. ...	2,121	3,161	
		Paluddar do. ...	19,138	19,874	
		Posts ...	24	...	
		Vargas ...	900	...	
		Kalakath trees ...	3	...	
		Scraps and pieces ..	1,221	761	
		Miscellaneous ..	2,949	...	
		Total Timber ...	32,551	45,643	
		Bamboos ...	5	...	
		Firewood ...	11,397	Mds.	
		Do ...	...	49,284	Cubic feet stacked.
		Brushwood ...	1,755	Mds.	
		Grass ..	5	do.	
		Shingles ...	839,785		

*** The Rawalpindi Division has not given the cubical contents of "other scantlings" sold at depôts, or sold locally, in either the Annual Report or any of the monthly returns. The Beas Division has in the same way omitted all mention of the cubical contents of Chil scantlings. The number of cubic feet given in this abstract is therefore not quite correct, being somewhat smaller than it should be. This cannot be helped now, and it is thought better to give the approximate number, rather than to omit it altogether, for the far larger quantities of other wood sold. Orders to prevent the recurrence of this omission have been issued.

Annual Form No. 62.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1881-82.

PARTICULARS.	No. or quantity.	Cubic feet.	TOTAL OF EACH HEAD. No. or quantity.	TOTAL OF EACH HEAD. Cubic feet.
BALANCE IN HAND AT COMMENCEMENT OF THE YEAR.				
Hazára Division.				
Scantlings ...	17	120		
			17	120
Jhelum Division.				
Deodar logs ...	59	1,216		
Pine logs ...	11	154		
Scantlings ...	7	17		
			77	1,387
Gujránwála Division.				
Deodar logs ...	1,766	26,442		
Broad-gauge sleepers ...	4	14		
Narrow do. ...	120	172		
Pencil Cedar ...	9	43		
Tún ...	4	21		
Ash ...	6	21		
Walnut ...	18	50		
			1,936	26,763
Chamba Division.				
Broad-gauge sleepers ...	3,543	9,968		
Scantlings ...	1,875	1,878		
			5,418	11,846
Beas Division.				
Deodar logs ...	227	6,654		
Walnut ...	25	151		
Maple ...	37	241		
Broad-gauge sleepers ...	262	910		
Other scantlings ...	741	1,736		
Boxwood ...	15	12		
			1,307	9,704
Phillour Division.				
Deodar logs ..	4,150	66,802		
Pine logs ...	1,818	29,052		
Broad- gauge sleepers ...	24	84		
Narrow do. ...	1,093	1,632		
Scraps and pieces ...	25	...		
			7,110	97,570
Carried forward ...	...	...	15,865	147,390

PARTICULARS.	No. or quantity.	Cubic feet.	TOTAL OF EACH HEAD. No. or quantity.	TOTAL OF EACH HEAD. Cubic feet.
REMOVED BY PURCHASERS FROM DEPOTS.				
Deodar logs ...	19,310	361,132		
Pine logs ...	7,845	121,758		
Walnut ...	18	50		
Ash ...	6	21		
Tún ...	4	21		
Boxwood ...	5	5		
Pencil Cedar ...	9	43		
Broad-gauge sleepers ...	4,712	16,336		
Narrow do. ...	889	1 287		
Deodar scantlings ...	8,564	19,378		
Chil do. ...	943	339		
Tos do. ...	1,924	1,994		
Walnut do. ...	28	71		
Maple do. ...	17	54		
Other do. ...	6,418	102		
Bed poles ...	79	...		
Scraps and pieces ...	5,429	10,706		
			56,200	533,297
Sold locally.				
Deodar logs ...	497	12,231		
Pine logs ...	26	562		
Other scantlings ...	2,358	...		
Deodar do. ...	1,494	2,993		
Ash do. ...	40	61		
Chil do. ...	1,780	...		
Biár do. ...	2,121	3,161		
Paluddar do. ...	19,138	19,874		
Posts ...	24	...		
Vargas ...	900	...		
Kalakath trees ...	3	...		
Miscellaneous ...	2,942	...		
Scraps and pieces ...	1,221	761		
			32,551	45,643
Carried over ...	...	...	88,751	578,940

Annual Form No. 62.—[*Prescribed*]—continued.

Particulars.	No. or quantity	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Brought forward ...	...	...	15,865	147,390
Received from the forests in depots.				
Deodar logs ...	15,429	307,114		
Pine logs ...	6,208	96,593		
Deodar scantlings ...	7,027	14,756		
Chíl do. ...	1,228	2,396		
Tos do. ...	2,174	2,613		
Other do. ...	10,892	4,267		
Broad-gauge sleepers ...	15,913	57,560		
Narrow do. ...	1,121	1,597		
Scraps and pieces ...	5,400	10,461		
Maple logs ...	4	29		
Walnut do. ...	3	17		
Ash do. ...	1	9		
Bed poles ...	79	...		
Door-frames ...	12	...	65,491	497,412
Received from the forests and sold locally.				
Deodar logs ...	497	18,231		
Pine logs ...	26	562		
Other scantlings ...	2,358	...		
Deodar do. ...	1,494	2,993		
Ash do. ...	40	61		
Chíl do. ...	1,780	...		
Biár do. ...	2,121	3,161		
Paluddar do. ...	19,138	19,874		
Posts ...	24	...		
Vargas ...	900	...		
Kalakath trees ...	3	...		
Miscellaneous ...	2,949	...		
Scraps and Pieces ...	1,221	761	32,551	45,643
Received from the forests locally and used by Department.				
Biár scantlings ...	35	35		
Paluddar ...	278	315	313	350
Carried forward ...	...	...	114,220	690,795

Particulars.	No. or quantity	Cubic feet	Total of each head. No or quantity	Total of each head. Cubic feet.
Brought forward ..	...	...	88,751	578,040
Used by the Department.				
Deodar logs ..	4	129		
Pine logs ...	1	33		
Biár scantlings ...	35	35		
Paluddar do. ...	295	435		
Chíl do. ...	11	23		
Other do. ...	43	124		
Scraps ...	9	35	398	814
Lost or written off as useless.				
Deodar ...	...	389		
Other pines ...	...	200		
Scraps ...	23	...	23	589
Transfers among depots				
Deodar logs ...	1	42		
Pine logs ...	1	16		
Scantlings ...	32	...	34	58
Transferred to firewood.				
Pine logs ...	62	418	62	418
Transferred to other classes.				
Deodar logs ...	73	630		
Pine logs ...	1	11	74	641
Balance at close of the year.				
Rawalpindi Division.				
Other scantlings ..	2,546	...		
Door-frames ...	12	...	2,558	..
Gujránwála Division.				
Deodar logs ...	59	971		
Pine logs ...	6	59		
Broad-gauge sleepers ...	1,291	4,511		
Narrow do. ...	8	7		
Ash logs ...	1	9		
Scraps and pieces ...	14	80	1,374	5,637
Carried over ...	...	...	93,274	587,097

Annual Form No. 62.—[*Prescribed*]—continued.

Particulars.	No or quantity	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Brought forward ...	...	...	114,220	690,795
Received by transfers among Depots.				
Deodar logs ...	1	42		
Other pine logs ...	1	16		
Scantlings ...	32	...		
			34	58
Received by transfers from other classes.				
Other pines ...	24	281		
Scraps ...	50	360		
			74	641
Total ...	...	...	114,328	691,494

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Brought forward ..	...	...	93,274	587,097
Chamba Division.				
Broad-gauge sleepers ...	13,738	47,671		
Narrow do. ...	500	665		
Deodar scantlings ...	1,275	1,075		
Tos do. ...	505	907		
Oak do. ...	79	48		
Chil do. ...	1,147	2,282		
			17,244	52,648
Bras Division.				
Deodar logs ...	427	11,436		
Pine logs ...	146	3,602		
Walnut do. ...	28	169		
Maple do. ..	41	270		
Boxwood ...	10	6		
Broad-gauge sleepers ...	5	17		
Deodar scantlings ...	213	701		
Walnut do. ...	28	52		
Maple do. ...	203	512		
			1,101	16,765
Phillour Division.				
Deodar logs ...	1,758	33,541		
Narrow gauge sleepers ...	951	1 443		
			2,709	34,984
Total ...	..	...	114,328	691,494

Abstract.

Balance in hand at commencement of the year	...	...	15,865	147,390
Received from the forests in depôts during the year ...	...	...	65,491	497,412
Received from the forests and sold locally during the year ...	...	...	32,551	45,643
Received from the forests locally and used by Department ...	...	...	313	350
Received by transfers among depôts ...	...	...	34	58
Received by transfers from other classes ...	...	...	74	641
Total ...	...	...	114,328	691,494

Removed by purchasers ...	...	...	56,200	533,297
Sold locally	...	...	32,551	45,643
Used by the Department ...	...	...	398	814
Lost or written off as useless	...	...	23	589
Transfers among depôts ...	...	...	34	58
Transferred to firewood ...	..	...	62	418
Transferred to other classes	...	...	74	641
Balance at close of the year	...	...	24,986	110,034
Total ...	...	...	114,328	691,494

Annual Form No. 62.—[*Prescribed*]—continued.

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Fire wood and Charcoal.				
Balance at commencement of the year.				
Rawalpindi Division.				
Firewood ... Mds. ...	5,645	...	5,645	...
Charcoal ... " ...	2,737	...	2,737	...
Grass ... " ...	221	...	221*	...
Lahore Division.				
Firewood	13	170,758	13	170,758
Received form the forests in depots.				
Firewood ... Mds. ...	42,589	...	42,589	...
Do. ... c. ft. ...	...	509,027	...	509,027
Charcoal ... Mds. ...	11,554	...	11,554	...
Grass ... " ...	167	...	167	...
Increase on remeasurement.				
Firewood ... c. ft. ...	...	1,315	...	1,315
Received by conversion in depot.				
Firewood ... c. ft. ...	...	200	...	200
Received from the forests and sold locally.				
Firewood ... Mds. ...	11,397	...	11,397	...
Do. ... c. ft. ...	244	49,284	244	49,284
Grass ... Mds. ...	5	...	5	...
Brushwood ... " ...	1,755	...	1,755	...
Total ...	...	...	76,327	730,584

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Removed by purchasers				
Firewood ... Mds. ...	15,301	...	15,301	...
Do. ... c. ft. ...	1	589,284	1	589,284
Charcoal ... Mds. ...	9,364	...	9,364	...
Grass ... " ...	388	...	388	...
Lost by dryage.				
Firewood ... Mds. ...	796	...	796	...
Do. ... c. ft. ...	...	4,950	...	4,950
Converted in depots.				
Firewood, pieces ...	12	...	12	...
Sold locally.				
Firewood ... Mds. ...	11,397	...	11,397	...
Do. ... c. ft. ...	244	49,284	244	49,284
Grass ... Mds. ...	5	...	5	...
Brushwood ... " ...	1,755	...	1,755	...
Balance at close of the year.				
Rawalpindi Division.				
Firewood ... Mds. ..	32,137	...	32,137	...
Charcoal ... " ...	4,927	...	4,927	...
Lahore Division.				
Firewood ... c. ft. ...	...	87,066	...	87,066
Total ...	...	...	76,327	730,584

* Was omitted in last year's return by the Divisional Officer.

Annual Form No. 62.—[*Prescribed*]—concluded.

Particulars.	No or quantity	Cubic feet.	Total of each head. No or quantity	Total of each head. Cubic feet	Particulars.	No. or quantity	Cubic feet	Total of each head No or quantity	Total of each head Cubic feet.
					Bamboos.				
Balance in hand at commencement of the year.					Removed by Purchasers				
					Bamboos ...	566,678	...	566,678	...
Rawalpindi Division.					Used by Department				
Bamboos	1,416	...	1,416	...	Bamboos ...	906	...	906	...
Phillour Division.					Sold Locally.				
Bamboos	1,087	...	1,087	...	Bamboos ...	5	...	5	...
Received from the forests in depots.					Balance in hand at close of the year				
Bamboos	573,197	...	573,197	...	*Rawalpindi Division.*				
					Bamboos ...	7,306	...	7,306	...
Received from the forests and sold locally					*Beas Division*				
Bamboos	5	...	5	...	Bamboos ...	810	..	810	...
Total ..	..	...	575,705	...	Total ...	...	...	575,705	...

Shingles.

By balance at commencement of the year.					Sold locally.				
					Shingles	839,735	...	839,735	...
Hazára Division					Used by Department.				
Shingles	...	...	...	...	Shingles	4,700	..	4,700	...
Received from the forests during the year									
Shingles	844,435	...	844,435	..					
Total ..	...	...	844,435	...	Total ..	...	...	844,435	...

Form No. 63.

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce cut, collected, and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1881-82.

DIVISION.	Produce removed. Description.	No. or quantity	Amount of revenue.	Amount actually realized during the year.	REMARKS.
Hazára ...	Pine and Paluddar Trees ...	256	1,061	1,061	
	Deodar do. ...	3	60	60	
	Chír do. ...	29	90	90	
	Kahn do ...	2	4	4	
	Total Trees ...	290	1,215	1,215	
	Dry Timber ...	34	163	163	
	Firewood, cubic feet ...	334,788	8,035	8,035	
	Grass, maunds ...	63,615	3,977	3,977	
	Grazing dues ...	...	1,694	1,694	
	Total Grazing ...	63,615	5,671	5,671	
	Minor Produce, maunds ...	927	476	476	
	Total Revenue under II ...	...	15,560	15,560	
Rawalpindi ..	Chíl trees ...	280	1,246	1,246	
	Miscellaneous trees ...	694	660	660	
	Total Trees ...	974	1,906	1,906	
	¼ share on Chíl Trees ...	...	260	260	
	Branches ...	...	76	76	
	Firewood, stacks ...	157,926	7,936	7,936	
	Do. maunds ...	63,480	2,760	2,670	
	Total Firewood ...	...	10,696	10,606	
	Charcoal, maunds ...	7,318	3,202	3,202	
	Limekilns ...	178	2,057	2,057	
	Total Charcoal ...		5,259	5,259	
	Grazing by permits and leases ...	...	9,402	9,204	
	Imlí leaves ...	...	319	319	
	Total Grazing ...	...	9,721	9,523	
	Total Revenue under II ...	...	27,918	27,630	
Jhelum ...	Firewood ...	...	681	681	
	Grazing ...	...	17,819	* 17,618	* Rs. 923 written off.
	Coal, tons ...	4,292	8,586	8,586	
	Stone, cubic feet ...	11,297	226	226	
	Miscellaneous ...	...	289	289	
	Total Revenue under II ...	...	27,601	27,400	

Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected, and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1881-82—continued.

Division.	Produce removed. Description.		No. or quantity.	Amount of revenue.	Amount actually realized during the year.	Remarks.
Gujránwála ...	Firewood, cubic feet	...	11 540	461	461	
	Total Firewood	...	11,540	461	461	
	Dry Timber	...	111	20	20	
	Grazing Leases	...	...	17,064	11,371	Of previous year.
	Do. Do.	...	...	61,927	58,262	Of 1881-82.
	Do. Do.	...	...	591	591	Of 1882-83.
	Grazing Cattle	...	25,483	6,551	6,551	
	Do. Do.	..	...	6,502	6,502	
	Grass, loads	..	1,323	125	125	
	Do. acres	...	595	139	139	
	Miscellaneous	...	...	18	18	
	Total Grazing	...	...	92,917	83,559	
	Bahekar, maunds	...	34	62	63	
	Total Revenue under II	...	...	* 93,460	84,103	* Rs. 1,025 written off by order of Government.
Chamba ...	Chil Trees	...	34	148	148	
	Total Trees	...	34	148	148	
	Firewood, maunds	...	2,361	70	70	
	Total Firewood	...	2,361	70	70	
	Total Revenue under II	...	...	218	218	
Lahore ...	Sissu Trees	...	81	230	230	
	Kikar do.	...	68	34	34	
	Salvadora Trees	...	1	...	...	
	Total Trees	...	150	264	264	
	Firewood, cubic feet	...	121,949	730	730	
	Do. maunds	...	370	56	56	
	Brushwood	...	...	286	286	
	Total Firewood	...	122,319	1,072	1,072	
	Grazing and grass	...	...	39,192	42,755	
	Total Grazing	...	...	39,192	42,755	
	Munj, Kana, Kahi	...	...	2,259	2,259	
	Total Revenue under II	...	...	42,787	46,350	

Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected, and removed from the Forests by Consumers or Purchasers including Pasture, during the year 1881-82—concluded.

Division.	Produce removed. Description.	No. or quantity.	Amount of revenue.	Amount actually realized during the year.	Remarks.
Mooltan ...	Trees ...	2,918	239	239	
	Firewood, &c. ...	444,023	9,892	9,892	
	Grazing and Grass ...	...	36,641	44,682	
	Miscellaneous ...	...	1,187	1,187	
	Total Revenue under II ...	...	47,959	56,000	
Beas ...	Deodar trees ...	274	280	280	
	Chil do. ...	1,175	3,132	3,132	
	Do. do. ...	...	...	450	Outstanding.
	Miscellaneous trees ...	4,271	691	691	
	Total Trees ...	5,720	4,103	4,553	
	Sal Poles and Beams ...	3,949	207	207	
	Firewood ...	...	28	28	
	Bamboos ...	12,673	206	206	
	Grass ...	...	1,832	1,832	
	Grazing dues ...	...	3,131	3,131	
	Total Grazing ...	..	4,963	4,963	
	Miscellaneous Trees ...	...	106	106	
	Total Revenue under II ..	...	9,613	10,063	
Phillour ...	Miscellaneous Timber ...	1,009	156	156	
	Firewood, maunds ...	3,325	763	763	
	Do. 359 tickets, maunds ...	2,775	173	173	
	Do. 60 acres, do. ...	32,400	5,400	5,400	
	Total Firewood ...	38,500	6,336	6,336	
	Bamboos ...	13,475	155	155	
	Grass, maunds ...	188	12	12	
	Do. 240 tickets, maunds ...	641	36	36	
	Grazing Cattle ...	3,329	759	759	
	Do. Goats and Sheep ...	393	34	34	
	Grass, 18 tickets ...	...	37	37	
	Miscellaneous ...	...	2,251	2,289	
	Total Grazing ...	...	3,129	3,167	
	Chal leaves, &c. ...	...	20	20	
	Total Revenue under II ..	...	9,796	9,834	
	Total Revenue of the Circle under II		274,912	277,158	

Form No. 65.—[*Suggested*]

Forest Department, Punjab.

Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1881-82.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
Deodar timber	6,202	101,114	63,196	2,244	45,948	28,717	...	34,479	Valued @ 10 annas per cubic foot.
Pines	1,829	29,206	9,127	152	3,661	1,144	...	7,983	Valued @ 5 annas per cubic foot.
Fancy woods	115	545	136	80	454	254	118	...	Valued @ 4 annas per cubic foot.
Broad-gauge Sleeper ...	3,833	10,976	9,583	15,034	52,199	37,585	28,002	...	Valued @ Rs. 2-8 each.
Narrow do.	1,222	1,804	1,833	1,454	2,115	2,181	348	...	Valued @ Rs. 1-8 each.
Deodar Scantlings	...	...	...	1,488	1,776	1,776	1,776	...	Valued @ Re. 1 per cubic foot.
Walnut do.	...	...	...	28	52	52	52	...	Valued @ Re. 1 per cubic foot.
Maple do.	...	...	...	203	512	512	512	...	Valued @ Re. 1 per cubic foot.
Other do.	2,639	3,745	1,873	1,731	3,237	1,619	...	254	Valued @ As. 8 per cubic foot.
	...	...	...	2,558	...	2,558	2,558	...	Valued @ Re. 1 each.
Scraps and pieces	25	...	3	14	80	5	2	...	
Total Timber ...	15,865	147,390	85,751	24,986	110,034	76,403	...	9,348	
Kikar trees	13	...	19	...	...	...	...	19	
Bamboos	2,503	...	60	8,116	...	582	522	...	
Firewood, maunds ...	5,645	...	1,411	32,137	...	8,034	6,623	...	Valued @ Rs. 25 per 100 maunds.
Do. cubic feet ...	...	170,758	6,830	...	87,066	3,483	...	3,347	Valued @ Rs. 4 per 100 cubic feet stacked.
Charcoal, maunds	2,737	...	3,592	4,927	...	4,927	1,335	...	
Total ...	10,898	170,758	11,912	45,180	87,066	17,026	5,114	...	
	Total ...		97,663	Total ...		93,429	...	4,234	

Net difference against the year, Rs. 4,234

No. 22 F., dated Calcutta, the 14th January 1884.

From—A. MACKENZIE, Esq., Secretary to the Government of India.

To—The Secretary to the Government of the Punjab.

I AM directed to acknowledge the receipt of the Officiating Junior Secretary's letter No. 369, dated the 28th August last, submitting the Annual Report of Forest Administration in the Punjab for the year 1882-83, together with His Honour the Lieutenant-Governor's review thereof.

Organization

2. During the year under review the superior staff has, together with that in the other provinces under the Government of India, been re-organized, and the position and the prospects of promotion of the Officers considerably improved. The necessity for such an improvement was specially urged upon the Government of India by Sir Robert Egerton, and it is satisfactory to learn that Sir Charles Aitchison approves of the new arrangements.

3. The proposal to draw closer the relations of Forest and Civil Officers, noticed by His Honour, has now been for some time under consideration, and it is hoped that the matter will be finally disposed of at no distant date.

An important measure is the introduction of a better staff of Native Officers than that hitherto available, and the dividing of the forests into a series of Ranges, each in charge of a competent Forest Ranger. In this respect good progress has been made during the last few years, and it is satisfactory to notice that the measure is reported to have done more good than any other connected with the administration of the forests. The Punjab has more freely than any other province availed itself of the means of education offered at the Dehra Dún Forest School, and is already commencing to reap benefit thereby.

Areas.

4. The areas under the management of the Department, and the changes which have been made during the year, are exhibited in the following statement:—

YEAR.	AREAS, IN SQUARE MILES			
	Reserved Forests.	Protected Forests	District Forests	Total.
1882-83	1,228	311	3,155	4,694
1881-82	1,160	311	3,323	4,794
Increase	68	.....	.....	.....
Decrease	.....	.....	168	100

The increase in the area of reserved forests is small, and that under protected forests is *nil*. The subject is, however, receiving attention, and it is hoped that the definite formation of forest estates to be permanently maintained as such, which forms the preliminary work of the Department, will be vigorously pushed on, so as to make the full strength of the forest staff available, at an early date, for the protection, improvement, and systematic working of the forests. The decrease of 100 square miles in the total forest area is mainly due to transfers of forests from the charge of the Forest Department to that of the Civil Officers.

The question touched upon in paragraph 11 of His Honour the Lieutenant-Governor's review, whether protected forests should be considered as permanent forest estates or not, has been brought under the separate consideration of the Government of India in connection with the treatment of the Kulu forests, and need not, therefore, be further discussed here.

Surveys and Working-Plans.

5. The Chapter of the Conservator's Report which deals with Surveys and Working-Plans shows how much remains to be done in this matter. It is stated that, of the reserved forest area, 487 square miles have been surveyed, while 771 square miles remain to be taken in hand. It is noticed, however, that the total area thus obtained, 1,258 square miles, does not agree with the total area of reserves given in Form No. 49 appended to the Report.

6. More or less detailed working-plans have only been prepared for a comparatively small portion of the forests, and it may be found convenient to set aside an experienced Officer for this important work, as soon as the formation and demarcation of reserves and their survey have been sufficiently advanced to admit of the arrangement. In the meantime I am to invite attention to the usefulness of drawing up Annual Plans of Operations for each Division, a subject which has not been dealt with in the Report under review.

Protection of the Forests.

7. The number of prosecutions on account of breaches of the forest rules rose from 710 in the previous year to 903 in the year under review; but, as the numbers of cases compounded by Forest Officers in these years have not been given, it is impossible to draw any conclusions from the above figures.

A considerable increase has taken place in the area overrun by fires. Though the total area burnt, 30,796 acres, is as yet comparatively small, it is satisfactory to notice that vigorous steps are contemplated to meet the difficulty in time, before the evil assumes larger dimensions.

Reproduction of the Forests.

8. His Excellency in Council has read with interest the sections of the Report which deal with natural reproduction and sowing and planting operations, and has specially noticed the successful rearing of deodar in Kulu and the efforts made to restock the Pabbi Reserve under very adverse conditions. It is expected that this branch of the work will make specially good progress under Mr. Ribbentrop's direction.

The areas dealt with artificially, compared with the corresponding figures of the previous year, are as follow :—

Year.	Areas planted, in acres.		
	Regular Plantations.	Other Cultural Operations.	Total.
1882-83	15,324	1,065	16,389
1881-82	15,448	753	16,201
Increase	.....	312	188
Decrease	124	.....	.....

The decrease under regular plantations is due to fellings and to the action of floods.

Working of the Forests.

9. The quantity of produce removed from the forests has considerably increased during the year under review. This is chiefly due to the cutting of 3,277 dead or dying deodar trees in Chamba, to increased free grants in Kangra and Rawalpindi, and to extensive removals of firewood by purchasers. The sales from Government depôts are also largely in excess of those of 1881-82, owing to considerable quantities of old timber having been brought down by exceptional floods, especially on the Jhelum river. The value of the timber thus received in depôts was, however, small. It is noticed that the subject of bringing out long timber, and thus increasing the net receipts, is receiving attention. This matter was, the Governor General in Council is informed, taken up as far back as 1880, and it seems due to the measures then taken that the average cubic contents per log extracted from the Bashahr Forests have, during the last two years, risen from 12½ to 21½ cubic feet.

Imports of Timber.

10. The imports of timber from foreign territory seem to have amounted to about the same quantities as in the previous year. There was an increase in the imports of 6,957 logs, but a decrease of 34,046 sleepers. The figures are as follow :—

Year			Logs.	Sleepers.
1882-83	...	...	30,346	273,883
1881-82	...	...	23,389	307,929
Increase	...	...	6,957	...
Decrease	...	...	.	34,046

Financial Results

11. The financial results of the last ten years are as follow :—

Year				Receipts	Charges.	Surplus.	Deficit
				Rs.	Rs.	Rs.	Rs.
1873-74	..	...	...	7,32,540	5,97,162	1,35,378	
1874-75	...	...	...	8,34,874	6,46,480	1,88,394	
1875-76	...	...	...	9,05,742	5,54,226	3,51,516	
1876-77	...	...	...	5,98,754	5,22,483	76,271	
1877-78	..	...	..	6,83,710	5,17,166	1,66,544	
1878-79	...	...	...	5,00,620	5,23,554	.....	22,934
1879-80	...	...	...	6,49,819	4,80,676	1,69,143	
1880-81	...	...	...	6,71,679	4,95,368	1,76 311	
1881-82	..	...	...	6,88,308	5,16,270	1,72,038	
1882-83	..	...	...	7,66,710	5,60,751	2,05,959	
Average	...	...	...	7,03,275	5,41,413	1,61,862	

It will be observed that the Charges have moved within narrow limits, while the Receipts have oscillated between 5 and 9 lakhs of rupees, causing considerable fluctuations in the Surplus. During the year under review the Receipts were Rs. 63,435 and the Surplus Rs. 44,097 above the average of the last ten years. The Surplus of 1882-83 is the highest which has been realized during the last seven years, but it is little more than one-half of the Surplus of 1875-76. On the whole, the financial results were least favourable in 1878-79, but a decided improvement took place in 1879-80. Since then the Surplus has risen slowly. During the year under review the financial

results were specially favoured by exceptional floods in the Jhelum, and by the sale of very large quantities of fuel at the Changa Manga Plantation, representing the return of expenditure incurred in former years. Without these transactions the general results would probably have been below the average of the last ten years.

12. His Excellency in Council considers that the Report submitted by Mr. Ribbentrop is interesting, and that it gives a clear idea of the state of Forest Administration in the Punjab, the progress in which during the year under review is on the whole fairly satisfactory.

Appendix showing the discrepancies noticed in the statements appended to the Report of Forest Administration in the Punjab for 1882-83.

FORM No. 51.

(Forest Tracts protected from Fire.)

The total of the column "Amount expended during dry season of 1882-83" comes to, from the addition of the figures actually given, Rs. 503, instead of Rs. 523; and the Total Cost is therefore Rs. 1,295, instead of Rs. 1,315.

D. N. M.—Home-Department Press—No. 40—19-1-84—410.

Proceedings of the Hon'ble the Lieutenant-Governor in the Forest Department, No. 367, dated 28th August 1883.

READ—

The Report on the Progress of Forest Administration in the Punjab during the year 1882-83, submitted by the Conservator under his letter No. 92 C. L., dated 30th June, and received on 1st August 1883.

REMARKS.—The Report has been promptly submitted by the Conservator, and the Lieutenant-Governor is therefore able to forward it to the Government of India by the date fixed, *viz.*, 1st September.

2. For the first time during late years the Forest Staff of the Province has been maintained at its full strength almost throughout the twelve months. At the close of 1882 the reorganization of the Department, sanctioned by the Secretary of State, was carried out with effect from 3rd September. The alteration which has thus been made in the position and prospects of the Forest Officers may be seen at a glance from the comparative table annexed :—

Class.	Former Staff.			Present Staff.		
	Grade.	No.	Pay.	Grade.	No.	Pay.
			Rs.			Rs.
Conservator	...	1	...	...	1	...
Deputy Conservators	1st grade	3	700	1st grade	3	900
	2nd grade	4	500	2nd grade		800
	3rd grade	...	...	3rd grade	3	650
	...	...	...	4th grade	4	550
TOTAL ...		7	...	...	10	
Assistant Conservators	1st grade	10	450	1st grade	4	450
	2nd grade		350	2nd grade	3	350
	3rd grade		250	3rd grade		250
TOTAL ...	...	10	...	...	7	
Sub-Assistant Conservators	...	4	...	...	4	
GRAND TOTAL ...	...	22	...	...	22	

The Lieutenant-Governor is exceedingly glad that so substantial an improvement has been made in the position and prospects of a class of officers who have long been doing valuable and useful work in the Punjab. His Honor is confident that the value and usefulness of their work will be greatly increased when the relations of Forest and Civil Officers are drawn much closer, and the Conservator should therefore submit his final recommendations on this subject without any further delay, in order that the scheme may be carried into effect from the commencement of the ensuing cold weather. Sir Charles Aitchison observes with satisfaction that the Conservator is able to report favourably of the Native Non-Commissioned Officers who have joined the Forest

Department, and he entirely agrees with the proposal in paragraph 1 that natives of the country should gradually be introduced into the higher ranks of the Department, according as they show themselves fit for such appointments. During the past year the first Native Sub-Assistant Conservator in the Punjab, Bábu Kirpa Rám, was appointed on probation.

3. The principal features of the operations of the Forest Department during 1882-83 may be briefly summarised as follows :—

A net area of 68 square miles has been added to the reserved forests, chiefly in the Jhelum Division. The selection of reserves in Murree and Kahúta has been completed, and a final report on the Kulu forests was submitted to the Government of India early in the current year. In the Chamba State the most valuable forest areas have been demarcated, and a rough record of rights enjoyed by the villagers in them has been framed, and has received the sanction of the Local Government; while, in accordance with the views expressed by the Government of India, in their letter No. 1052 of 18th December 1882, enquiries are being made regarding the desirability of early demarcation of the more important forest areas in Bashahr. It will not be possible, however, to undertake the latter work during the present year. The proposals made for the treatment of the remaining Salt Range rakhs in the Jhelum District have been recently approved by the Lieutenant-Governor, and the report on the cultivation of the Lahore rakhs has been printed, and will shortly receive the orders of His Honor. A new arrangement has been entered into with the Kashmir State regarding the collection of unmarked waif timber in the Jhelum River, the terms of which, however, are not altogether correctly summarised by the Conservator in paragraph 2 of his Report; and arrangements with that State in connection with the Chenab river and with the Rája of Mandi in connection with the Beas are under consideration. The important work of boundary demarcation was well advanced during the year; and the Conservator has submitted proposals for the completion of surveys and working plans, which, with the work of improvement and reproduction, require to be vigorously taken up now. Of late years the forest staff of the Punjab has been so weak, and the labour of demarcating and classifying forests in accordance with the provisions of the Forest Act has been so heavy, that officers have had comparatively little leisure in which to turn their attention to these points. The Lieutenant-Governor is glad to see that Mr. Ribbentrop has devoted a considerable portion of his Report to a detailed account of the progress of natural reproduction and cultural operations, and His Honor would wish this practice to be followed in all future Reports. It is satisfactory to observe the success which has attended the further cultivation experiments in the Pabbi during the year, and to note that the Conservator is able to state that the natural forest growth in Kulu and elsewhere has made great progress since he last visited the places ten years ago.

4. A considerable increase is observable in the number of forest offences committed during the year, but the percentage of convictions rose from 71 to 75, and the actual number of offences is not much in excess of that in 1880-81. The number of offences compounded by Forest Officers is, however, not stated. This should be done in future, in compliance with the orders of the Government of India in paragraph 5 of the Review of the Report of last year. A serious increase has taken place in the area burnt by fires, and the Lieutenant-Governor regrets to record that very extensive conflagrations have been reported from the Kángra District since the close of the year. His Honor would again invite the attention of all officers to the necessity of making the villagers clearly understand the provisions of the Forest Act and Rules in regard to fires and of inflicting adequate punishment in all cases in which fires have been deliberately caused; and in every instance in which the District and Forest Officers are agreed that fire was undoubtedly due to malice prepense, proposals should be submitted in accordance with the Act to deprive the guilty villages of the enjoyment of their forest rights for a period.

5. The area closed against grazing, entirely or partially, amounted in 1882-83 to 652 square miles, or 14 per cent. of the area under the control of the Forest Department. This area is no doubt small, as pointed out by the Government of India in paragraph 5 of the Review of last year; but it will probably be found feasible to largely increase the area to which such restrictions can be

applied as soon as Forest Officers are placed in closer relation to Civil Officers. On receipt of the Review of the Government of India, the Conservator was requested to complete and submit the Reports called for in 1881, on the system of management of grazing in each forest division; but up to the present date these have not been received by Government. Their submission should now be expedited.

6. Since the close of the year Reports on the Shahpur-Kandí and Hamírpur forests, which were submitted to the Financial Commissioner during 1882-83, have been before Government, and have received orders; the detailed notice of these belongs, however, to the Report of the current year. An excellent Report by Mr. Moir on the treatment of the areas of the outer Siwáliks affected by "chos" or sandy torrents has also been under the consideration of the Lieutenant-Governor, and has been referred to the Financial Commissioner. The services of Mr. Moir were placed at the disposal of the Punjab Government for the above work by the courtesy of Sir Alfred Lyall. During the year it was decided to abandon all further attempts to afforest the area of the Pesháwar jhil, and this conclusion was reported to the Government of India in February last. A Report on the Jubbal forests, which formed the last of those in the Simla Hill States remaining for special examination, was submitted by Major Bailey, Conservator of the School Circle, North-Western Provinces, and in accordance with his recommendation it was decided that it was unnecessary to lease the forests. The Superintendent of the Hill States has, however, been requested to use his influence for the preservation and reproduction of the forests in Jubbal and in all the other Hill States under his control; and it is hoped that this influence will result in the better protection and maintenance of the forest areas of the outer Himalayas, from Kángra to Dehra Dun. During the year Mr. Forrest, Deputy Conservator, has been engaged on the demarcation of the Hazára village forests, but no Report on the progress of his work has yet been received by the Local Government.

7. The number of trees felled by the Forest Department in 1882-83 was 7,204, showing an increase of 1,364 over the numbers of the previous year. Of these trees, 5,937 were deodár, of which 3,277, all dead or dying, were cut in the Chamba forest. The increase of timber brought to the sale depôts during the year was 614,700 cubic feet, of which 600,000 cubic feet were carried down by the heavy floods of the Jhelum River, and consisted of the timber of traders, or waif, or old wood which had long been in the river, and had become of little or no value. Sales at the depôts were 248,856 cubic feet in excess of the previous year, and the balance in stock at the close of the twelve months under report was 225,734 cubic feet more than at the end of 1881-82. The value of timber, as pointed out by the Conservator in paragraph 8 of the Report, increases very rapidly in proportion to the increased length of the logs, and it may be hoped that the measures which it is proposed to take in order to secure the cutting of long timber in the Hill Divisions will prove successful.

8. With reference to sales of timber from the forests, it may be remarked that the price for which deodár trees are sold to agriculturists in Kulu is at present only Re. 1 per tree. This price, as pointed out by the Conservator, is very inadequate; and the Lieutenant-Governor is willing to accept the proposals made by Dr. Schlich for the valuation of these trees in connection with his recommendations for the treatment of the Kulu forests, if the local officers are able to concur in them, and they will probably be carried into effect during the current year. It is alleged that trees are at present used wastefully in Kulu. If this is so, the waste will no doubt be checked by the forest settlement which is now under progress, and which will probably result in an approximate estimate being formed of the amount of wood really required annually by each house in the valley. The great increase of free grants in the Rawalpindi Division should be explained, and the Lieutenant-Governor will be glad to learn to what causes it is to be ascribed.

9. The financial working of the Forest Department during the year has been highly satisfactory. The receipts amounted to Rs. 7,66,709 and the charges to Rs. 5,60,750, leaving a profit of Rs. 2,05,959 as compared with Rs. 1,72,038 in the previous year. The net income is the highest ever realized in the Punjab, and is largely due to the sale of drift timber

in the Jhelum Division, and of standing timber at the Changa Manga plantation. The present is the first year in which the receipts and charges of the Forest Department have been shared by the Imperial and Local Governments, and the financial results will no doubt be considered satisfactory to both. The large balances on account of outstandings due from contractors and of revenue, which amount to Rs. 40,107, or 5 per cent. of the total income of the department, are not satisfactory however. There may be special reasons why the outstandings should be large, but if so, these should be explained. The attention of the Financial Commissioner has lately been invited to the necessity for the prompt collection by District Officers of the grazing fees due to the Forest Department on account of leases sold by the Deputy Commissioners; and the facts stated in paragraph 139 of the present Report will also be brought to his special notice, for such action as he may consider proper.

10. On the whole, the Lieutenant-Governor considers that the working of the Forest Department during 1882-83 has been eminently satisfactory, and that credit for this result is due to the officers of all ranks serving in the Province, and to the late Officiating Conservator Major Van Someren. The Report submitted by Mr. Ribbentrop is a clear and careful one. In the Report of 1883-84 it will no doubt be possible to include a map showing the principal forest areas of the Punjab, which will greatly add to its value.

11. In conclusion, the Lieutenant-Governor desires to refer briefly to a statement in the Review of the Report of 1881-82 by the Supreme Government, that when the Indian Forest Act was framed it was understood that all forests which it was intended to maintain permanently as such would be constituted reserves. Sir Charles Aitchison has carefully studied the Act and the debates which took place in the Legislative Council regarding it, and it does not appear to him that the principle asserted by the Government of India is borne out by them to the extent alleged. The reasons for this view have been fully explained in addressing the Supreme Government on the subject of the treatment of the Kulu forests. The Lieutenant-Governor has thought it necessary to refer to the subject here only to prevent misapprehension that might be occasioned if the question were passed over unnoticed.

ORDER.—Ordered that the above Review be forwarded to the Government of India in the Home Department, (Forests,) with the usual number of copies of the Report.

Also, that it be published as usual in the *Punjab Government Gazette.*

Also, that a copy be forwarded to the Financial Commissioner of the Punjab, with reference to the remarks contained in paragraph 9.

By order of the Hon'ble the Lieutenant-Governor of the Punjab,

H. C. FANSHAWE,

Offg. Junior Secretary to Government, Punjab.

Printed at the Punjab Government Secretariat Press Lahore.—28-8-83.—400.

No. 92 C. L., dated Simla the 30th June 1883.

From—B. RIBBENTROP, ESQ., Conservator of Forests, Punjab,

To—The Junior Secretary to Government, Punjab.

I have the honor to submit the Annual Administration Report of the Punjab Forest Department for 1882-83.

TABLE OF CONTENTS.

	Para.
INTRODUCTION	1
CHAPTER I.—AREA AND BOUNDARIES	11
CHAPTER II.—SURVEYS, WORKING PLANS AND ANNUAL PLANS OF OPERATIONS	37
CHAPTER III.—PROTECTION AND IMPROVEMENTS	39
1. Establishment	*ib.*
2. General protection and breaches of Forest rules ...	45
3. Forest fires	49
4. Grazing and fencing	53
5. Natural reproduction	63
6. Cultural operations	73
7. Experiments	91
8. Communications and Buildings	93
CHAPTER IV.—YIELD AND WORKING	102
1. Departmental Operations	*ib.*
2. Removal of produce by purchasers	124
3. Free grants of forest produce	129
4. Summary of produce removed from the forests ...	131
5. Imports and exports of forest produce	132
CHAPTER V.—FINANCIAL RESULTS	134

Statements exhibiting the Annual Accounts.

Form No. 49.—Area of Reserved Forests.
" " " — " of Protected Forests.
" " " — " of Unreserved Forests.
" " 50.— " of Plantations.
" " 51.— " of Forest tracts protected from fire.
" " 52.—Prosecutions for breaches of Forest Rules.
" " 53.—Annual Summary of Revenue and Expenditure.
" " 54.—Account Current.
" " 55.—Statement of Outstandings and Liabilities on account of contractors and disbursers.
" " 56.—Statement of Outstandings on account of Revenue.
" " 57.— " of Financial results.
" " 58.— " of trees felled.
" " 59.— " of outturn of timber and other produce cut and collected by Government agency.
" " 60.— " of timber, &c., brought to Depôt.
" " 61.— " of timber, &c., sold from Depôts and locally.
" " 62.—Timber account of the year.
" " 63.—Statement of timber and other produce cut, collected and removed from the forests.
" " 65.—Abstract showing the value of timber and other produce at sale depôts for the year.

Appendices.

List of Ranges	A
Table showing progress in demarcation	B
" " reserved areas surveyed and not surveyed	C
" " of contract rates for timber and other produce	D

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE PUNJAB

FOR THE YEAR 1882-83

INTRODUCTORY REMARKS.

1. The project of bringing Forest officers into closer connection with District officers has not been advanced during the year; but since I have ascertained that no material difference will be made in the present boundaries of the Civil Districts, I hope soon to be in a position to submit a detailed scheme.

It will not, at present, be possible to attach a gazetted officer to each District, and in several cases it will be unavoidable to place a Forest officer in subordination to several District officers. I trust, however, the time will not be far distant when, by means of the Forest School and by careful training, both before and after their theoretical studies, we will raise a class of native officers sufficiently qualified for the smaller charges, and hereafter, probably, for more important duties. Keeping this end in view, it would be most advisable that no more direct Probationer or Sub-Assistant Conservatorships should be granted, and to declare that the only way to the appointment of Sub-Assistant Conservator is by the regular course through Forest Apprenticeship, Forest School, and Forest Rangership. By these means, and by gradually increasing the number of Sub-Assistant Conservators, it will be possible at some future time, if not to lessen the number of European Forest officers, at least to prevent the necessity of an increase in their numbers, to work by a more numerous and cheaper agency, and to provide every District officer with his Forest Assistant who would take charge of the management of all waste lands and the general arboriculture of the district.

The total area of forests and waste-lands at the disposal of Government amounts to about 18,235* square miles; of these, 4,694 square miles are at present under the control of the Forest Department, leaving 13,541 square miles under the management of District officers. To bring this whole forest area under one harmonious management, it is imperative that the Forest officers be made Forest Assistants to the District officers; that the whole of Government forest property should be settled; that it should be ascertained what areas can be ultimately set apart for the timber, fuel and grazing supply of the country, and what areas may be given up for the extension of cultivation; and that in time to come but one class of State forest property should be recognized. Each reserve must, of course, be settled and treated on its own merits.

2. During the year arrangements have been made with the Kashmir Darbár regarding the collection of drift and waif timber on the river Jhelum, which forms the boundary between British India and Kashmir from the junction of the Kunhar river to within a few miles above the town of Jhelum.

The arrangement is that, where the boundaries of the two countries run together, each country takes charge of such unmarked drift timber as *settles* on their own bank, and retains it for their own use and profit, until and unless any person establishes his right and title thereto. Where both banks are British, all unmarked drift belongs to Government and can only be salved by the Forest

---

* These figures contain 567 square miles of leased forests.

officer. The Punjab Forest Department alone has the right to salve timber bearing Government marks, or those of private traders, on both sides of the river or in mid-stream.

3. The Kashmir Darbár has also been addressed with a view to systematize their rules and regulations on the Chenab, in the proper management of which river we are greatly interested as it forms the export line from the leased Pangi forests. The floating, catching and rafting operations on the Chenab had never been interfered with till last year; on the contrary, several catching and storing depôts had always been placed at our disposal, as well as several inspection bungalows which were kept in repair by the Kashmir authorities. During the year, however, several abrupt and unconnected orders were issued by the Kashmir Darbár taxing the tárus* who catch the loose floating logs and bring them into the catching depôts; requiring the raftsmen to take out rafting passes; and imposing fees on the occupation of catching and rafting depôts.

It can hardly be gainsaid that the Darbár has a right to impose these taxes if they improve their river police at the same time, and guarantee a greater security to the timber in transit. Till now, logs thrown into the upper Chenab are a most uncertain property, and the "Lai-ke-Pher" whirlpool is a most convenient scapegoat which has to account for any timber that does not arrive at its destination.

The tárus employed in the Chenab are rarely agriculturists; they live, as a rule, on profits derived from timber transport, and till last year paid no taxes whatsoever to the State. The impositions seem just, and in no wise extravagant or exorbitant; but the inconsistent and abrupt manner in which these orders have been promulgated is objectionable, discomposing our employés, and disturbing the timber importation and trade at large to a considerable extent.

4. Our relations with the Rájá of Mandi as regards timber transit on the Beas, which for some distance flows through His Highness' country, are not as yet finally settled.

Government has decided to pay the Rájá Rs. 500 per annum for any real or supposed rights regarding jetsam and flotsam of logs; but the Rájá claims that a paragraph be inserted in the settlement "that any of his subjects should be entitled to take for his own use any piece of timber of whatsoever sort which he could carry alone." This condition might at any time put a stop to the exploitation of sleepers, or even of larger scantlings, from our Kulu forests; and the question has been re-referred to the Mandi Darbár through the Commissioner and Superintendent of Jullundur.

5. The Native Chiefs through whose States the Sutlej flows have greatly assisted the Forest Department in their work, and offenders brought before them by the Foresters and their guards have been promptly punished on conviction. The punishments, it is true, have frequently been extremely lenient; but, as they have had the desired effect of checking timber theft to a great extent, they have served their purpose. The former timber piracy in this part of the river no longer exists.

6. The river Indus and its tributaries within British territory, including an area within a direct distance of five miles from either bank of the *main* stream of the river taken at its cold-season level, having been added by Government Notification No., 188 F, dated 9th April 1881, to the areas within which under Section 45 of the Forest Act all unmarked wood and timber shall be deemed the property of Government, until or unless any person establishes his right and title thereto, due notice was given that from the 1st of January traders would be required to register their marks and take out chaláns for rafting.

* Tárus are men who swim out into the river on inflated skins to catch and secure timber which till then floats singly and uncontrolled.

The assumption of the drift timber management by the Forest Department is decidedly popular among the trading classes, but, on the contrary, badly received by the Khán of Makhud, who apparently claiming a sort of right to jetsam and flotsam on the banks of the Indus, charged most exorbitant rates for salving traders' timber, realizing, it is believed, a handsome profit.

7. The floods in all the rivers of the Province have been extremely sudden and violent. Large quantities of timber which had been stranded for years were carried down, and the floating rivers were thoroughly cleared of old timber. The blessing, however, was by no means unqualified. Rafting operations were rendered extremely difficult, rafts were broken up, and numerous logs were carried away from catching- and even sale- depôts.

The losses which Government sustained were comparatively small, as their depôts and rafting arrangements were well organized, and as the officers, especially on the Chenab and Jhelum, where the floods were most severe, early recognizing the danger, took special means to meet it. On the Chenab the whole timber in the sale depôt was at one time afloat, and was only secured by the most strenuous efforts. Private traders both on the Jhelum and Chenab lost very heavily, much of their timber was never recovered, and many of their logs were carried far inland and deposited high and dry in fields and nalláhs.

8. A comparative list of contract rates in the different hill divisions has been entered in the Appendix. A reference to this list will at once show that insufficient inducement is held out by the rates as at present arranged to bring out those classes of timber which would fetch the highest prices and be most easily disposed of. Contractors receive almost the same rates whether they extract a tree in two long or four short logs. The almost universal absence of long timber in the sale depôts is to a great extent due to this. A thorough revision of contract rates is under consideration on the principle of increasing the rate per cubic foot with the increasing length of the log extracted, which depends on the contractor; whereas no increasing rate per cubic foot is contemplated for increasing girth, which it is not in the power of the contractor to influence. The net revenue of the hill divisions, it is hoped, will be largely increased by the exploitation of longer timber.

9. A list of the ranges into which several divisions have been divided is added in the Appendix. It has been generally found that the division of the forest area into ranges in the charge of responsible Rangers, and the sub-division into beats, has very much simplified and improved the control. The Rangers being in charge of a special tract take a more special interest in their charge, are able to afford more information, and they as well as their guards, from a more intimate knowledge of the people they have to deal with, are in a better position to check and discover forest offences. No measure has done more good than the breaking up of divisions into well-defined ranges.

10. Though this year shows a lamentable increase of disasters by forest fires, considerable progress has nevertheless been made of late years to check the wholesale firing of wooded areas in British territory, and it is therefore all the more to be regretted that forest fires are still the rule of the day in Mandi and the adjoining States.

I marched during May through part of the Mandi territory, and found the whole country ablaze. Oak forests, pine forests, and even areas covered with deodar, were indiscriminately fired. This is not only an extremely bad example for the inhabitants of Kángra and Kulu, whose inclination it is to follow suit, but it also endangers our frontier forests, and it is strongly suspected that some of the fires that occurred in the Beas Division spread from the adjoining States.

CHAPTER I.—AREA AND BOUNDARIES.

11. An abstract of form 45 exhibits the following changes in the area of reserves :—

Divisions	Area on 1st April 1882	Added during the year	Deducted on account of faulty estimate	Total
	Sq. Miles	Sq. Miles	Sq. Miles	Sq. Miles
Hazára	236	...	...	236
Rawalpindi	104	...	...	104
Chamba	224	...	28	196
Beas	60	...	...	60
Bashahr	135	...	...	135
Jhelum	119	64	...	183
Gujránwála	45	32	...	77
Lahore	38	...	...	38
Mooltan	197	...	...	197
Phillour	2	...	...	2
Total ...	1,160	96	28	1,228

Of these 1,228 square miles, areas estimated to contain 331 square miles are only demarcated under the provisions of leases made with the Rájás of Chamba and Bashahr, leaving in the whole of the Province an area of but 897 square miles of reserves constituted under Chapter II of the Forest Act.

The areas added during the year may, though those added in the Jhelum Division are situated in undulating country, be classed as rakhs, whereas the deduction of 28 square miles has been made from hill forests.

The classification would stand, therefore, as follows :—

Upper hill forests	517	square miles.
Lower „ „	110	„
Plains forests and rakhs	601	„
Total ...	1,228	„

12. *Hazára Division.*—The formation of State reserves in the Hazára Division may be considered as completed.

A considerable area has been selected for military locations by a Committee which assembled by order of His Excellency the Commander-in-Chief, and of which the Deputy Commissioner and the Forest officer in charge of the division were silent members. The boundaries have been fixed, but the areas have not as yet been formally transferred to the Military authorities, and are therefore still shown on the returns of the Forest Department.

13. *Rawalpindi Division.*—The final selection of reserves in the Murree and Kahuta Tahsíls has been completed. Mr. Robertson, who was appointed Forest Settlement Officer for the two tahsíls, has finished his inspection of the Kahuta reserves, undertaken with a view of settling the compensation to be paid for ejection from cultivated areas included within the proposed reserves. The amount of compensation in the Kahuta Tahsíl, it is estimated, will amount to Rs. 10,000, and it has since the close of the year been ascertained that about 15,000 rupees will have to be paid for the same purpose in the Murree Tahsíl.

The area of State reserves will, it is expected, amount to 62,800 acres; but 40,000 acres of most valuable forest land have been demarcated in addition to this, and it is proposed that this area should in the first instance be constituted

"protected forests" under Chapter IV of the Forest Act till further experience would show whether they might be transformed into State reserves.

I had to agree to this proposition on the condition that the enquiries into and the records of rights should be as searching and accurate as prescribed by rules for the constitution of forest reserves; so that a future metamorphosis would only entail a *pro formâ* procedure. It is expected that these reserves and protected forests will be made over to the Forest Department during the remaining year.

14. *Chamba Division.*—Mr. Vincent reported that the record of the areas of demarcated forests in the Bhandal valley was far in excess of reality, and I have convinced myself by personal inspection that this was the case. The whole area of the Bhandal valley comprises only about 110 square miles, and the demarcated portion does not amount to 25 per cent. I have therefore reduced the estimate of 56 square miles by one-half. No further advance has been made in the reservation of the Shahpur Kandi forests. The case is pending orders, but in the meantime the forests are looked after by the Forest Department and cleared boundary lines and pillars are kept in repair.

15. *Beas Division.*—No addition was made to the areas of reserved forests, but during the year some 80 square miles were selected in the Kulu valley in addition to those already marked out, and the rights within this area were enquired into and preliminarily recorded.

The question of the reservation of the forests in the Kulu valley is before Government. The selection of forests to be reserved has been nearly completed, but till final orders have been passed it is not for me to predicate what area is likely to be formed into permanent reserves. The Inspector General of Forests visited the Kulu forests during the year, and, in concert with the Commissioner and Superintendent of Jullundur, submitted proposals with regard to the reservation of the Kulu forests to Government.

On the decision of Government in the case of the Kulu forests, depends, to some extent, also the question of forest reservation in the Hamirpur Tahsíl, where some 25 square miles have been selected by the Settlement Officer and the Deputy Conservator in charge of the Beas Division.

The reservation of the Jagir forests of Nadaon Gohr, Siba and Kot is also under consideration.

16. *Bashahr Division.*—No alteration has taken place in the area of forests selected under the conditions of the lease for special treatment, which in our returns figure as reserves :—

The Nagli range contains	23 square miles
Tranda	19 "
Kilba	15 "
Kailas	18 "
Chini	20 "
and the Pandrabis	39 "

The entire area, however, of the Bashahr forests is practically managed by the Forest Department, and their control is modified according to the present and future value of each forest, and the paternal care for the wants and requirements of the people living in its vicinity. The exact amount of control which is exercised in each forest is as yet undefined and unrecorded.

17. *Jhelum Division.*—During the year 64 square miles have been added to the area of reserves, they are contained in six blocks five of which were formerly under departmental control as unreserved forests, while the sixth, Rakh Kot Kalan, has been taken over from the Deputy Commissioner.

No final orders have issued during the year with regard to the reservation of the 16 rakhs in the Pind Dádan Khan, Jhelum and Chakwál Tahsíls mentioned in paragraph 17 of last year's report neither have any orders been passed

as yet in respect of the Rakhs Makiála, Kussak, Dandot and Dalwal, aggregating 53 square miles. These rakhs a e to such an extent honeycombed by cultivation and overburdened by rights that their formation into reserves would serve no practical purpose, and I have therefore abandoned the plan and acquiesced to their being placed in charge of the Deputy Commissioner.

The forest settlement of the Khushób Salt Range rakhs which it was originally proposed to commence in 1882-83 has been postponed until the Shahpur District comes under settlement However much this is to be regretted for some reasons, I am of opinion that the loss of time is outweighed by facilities afforded by a general settlement.

18. *Gujránwála District.*—The area of reserves has been increased by 32 square miles by the reservation of 13 unreserved rakhs in the Phalián Tahsíl, under orders contained in *Punjab Gazette* Notification No. 284, dated 13th July 1882.

The usual changes in the areas of reserved belás have taken place during the year, and 47 acres have been added by accumulation of sand and silt

The notification under Section 19 of the 88 square miles of rakh reserves in the Gujránwála District mentioned in paragraph 18 of last year's report is still pending, as it was ordered that the settlement operations should be carried out *de novo.* The final report of the Settlement officer regarding this area has, however, been submitted, and it is confidently hoped that the notification will issue shortly. In this case several claims were preferred but none admitted; however, the Settlement officer in his report, acting on orders of the Financial Commissioner, and on the plea that the reservation would entail undue hardship on the neighbouring villages, has proposed that block I, Jhinda Jhariána, containing 998 acres, and 600 acres of block Baghomali, be excluded from the reserved area. To this I agree, not because I admit any legal right under the Act, but as an equitable concession apart from the legal settlement by the Forest Settlement officer whose duties under the Act are to stereotype the rights as he finds them.

19. *Lahore Division.*—The changes in the areas of reserves in the Lahore Division are unimportant, and due only to river action, which carried away some 8 or 9 acres from the Sailába plantations, Shahdara and Jhoke. Mr. Dane's report on the state of cultivation in the Lahore rakhs has not as yet been received by me, but, as it has been submitted to the Financial Commissioner, I hope to obtain a copy, which will enable us to elaborate proposals for the constitution of further reserves in the Lahore District.

20. *Mooltan Division.*—No extension of reserves took place in this division, nor have the proposals regarding reserves in the Muzaffargarh and Dera Gházi Khan Districts progressed any further. It is imperative that this should be taken in hand as soon as possible, and I intend to visit these districts during December and January next with at least two officers drawn from the hill divisions whose work is slack at that time, and to start the work on a proper basis.

21. The following is a summary of the progress in the settlement of reserves during the year under review :—

Divisions	Reserves gazetted during the year	Reserves waiting final orders
	Square miles	Square miles
Rawalpindi	...	99
Chamba	...	21
Jhelum	64	136
Gujránwála	32	88
Total ...	96	344

Protected Forests.

22. No alteration has taken place in the area of protected forests.

23. As already mentioned in paragraph 13, the constitution of some protected forests is under contemplation in the Murree and Kahuta Tahsíls, as a tentative measure. The protected forests in the Kála Chitta range, which extends from Rawalpindi to the Indus, have been inspected by Mr. Steedman and the Forest officer in charge of the Rawalpindi Division, with the object of ascertaining what portions of the present protected forests may be converted into reserves. The survey sheets had not all been received at the time of inspection, but it was thought advisable not to delay any longer on that account. The draft notification under Chapter IV of the Forest Act will soon be submitted to the Financial Commissioner.

24 Government accorded sanction in their No. 381 of 31st August 1882 that the Jhang forests should on transfer to the Gujránwála District be constituted protected forests. This order, however, seems to have been considerably delayed on the road, and reached the divisional officer on the 6th of January only.

It was next ascertained that the line marked out on the ground differed from the demarcation shown on the map, and it does not now seem certain whether the demarcated line runs entirely through Government waste-land. The enquiries instituted regarding this question have not been completed, and, pending this, the rakhs have not been gazetted as protected forests.

Unreserved Forests at present under control of the Forest Department.

25. The areas of unreserved forests under departmental control have decreased by 196 square miles. Of this area, 93 square miles were transformed into reserves—61 square miles in the Jhelum Division and 32 in Gujránwála; 55 square miles were re-transferred to district management in the Jhelum Division; 8 square miles were lost in the correction of the Jhang boundary settlement; and 4 square miles were given away in cultivation grants in the Mooltan Division.* A few more unimportant changes took place by exchange of land and river action.

The dispute regarding the boundary of the Kalesar unreserved forest having been ultimately and definitely settled, nothing prevents it being constituted a forest reserve, and the draft of notification required under Section 4 of the Forest Act will soon be submitted.

Summary of Forests under the Forest Department.

26. The total area of forests and rakhs at present under the management of the Forest Department stands, therefore, approximately as follows:—

Divisions	Reserves		Protected Forests	Unreserved Forests	Total
	Under the Act	Under lease			
Hazára	...	236	...	...	236
Rawalpindi	104	...	171	375	650
Chamba	...	196	...	37	233
Beas	60	...	...	526	586
Bashahr	...	135	...	34	169
Jhelum	183	...	...	407	590
Gujránwála	77	...	140	455	672
Lahore	38	...	...	392	360
Mooltan	197	...	...	949	1,146
Phillour	2	...	...	50	52
Total ...	661	567	311	3,155	4,694

* A correction was also made in the return of 8 square miles which were excluded in 1881-82. See footnote on page 9 of last year's annual report.

BOUNDARIES.

27. *Hazára Division.*—The boundaries of the military locations within the reserves in the Dungagali range have as yet only been demarcated by temporary bench marks, but masonry pillars will be erected by the military authorities. The demarcation of the Siran range was completed during the year by the erection of 409 pillars ; and that of the reserves in the Kághan range is well advanced—665 pillars were erected, and, as 39 square miles only remain to be demarcated, there is little doubt that the work will be finished before the present season closes, and thereby ending the work of the demarcation of all reserves in the Hazára Division.

The boundaries in the Khánpur range were inspected, and 109 pillars which had fallen or were otherwise injured were rebuilt.

28. *Rawalpindi Division.*—The disputes noticed in paragraph 26 of last annual report have been settled. That with the Sardár of Kot Sundki regarding the reserve Kherimár has been decided by the Settlement Commissioner in favor of the Sardár, on the grounds that the Settlement records were untrustworthy. This withdraws from the Forest Department the only basis for contention. The claim of Pír Sadr Dín to a portion of the Márgalla reserve has been disposed of in Government of Punjab order No. 139, dated 29th March 1883. Mr. Steedman, the Settlement officer, has in consequence enquired into the grazing right to be allowed to the Pír, and awarded the following right: grazing for 80 bulls, bullocks and buffaloes, 300 cows or she-buffaloes, 20 horses, mares and ponies ; it is specially recorded that goats and camels are not admitted. It is expected that an appeal will be entered against this award.

An inspection by Lieutenant Egerton, Assistant Commissioner attached to the Settlement Department, of the boundaries of the reserves demarcated previously to 1881, has shown that the permanent demarcation of most of these boundaries is faulty ; and faulty to such a degree that the inspecting officer has no hesitation in asserting his belief that it was carried out with the intention to defraud. The question regarding the rectification of these boundaries is under consideration.

The boundary of the protected forests in the Rawalpindi Division has been inspected during the year. In the tahsíls Fatahjang and Attock the boundary-marks are only heaps of stones—whitewashed it is true, but nevertheless a very unreliable protection against encroachment.

29. *Chamba Division.*—The forests selected under the lease for special protection have been demarcated, with the exception of the following areas :—(1) Topi, (2) Dungha Makúa, (3) Bara, (4) Upper Tain, (5) Lower Tain, (6) Doloren, (7) Kugti.

The work of demarcation will be finished during the present season.

30. *Beas Division.*—No permanent demarcation took place in this division ; the pillars on old bundary lines have been repaired and temporary marks have been put up round the proposed reserves in Kulu and the Hamirpur Tahsíl.

31. *Bashahr Division.*—The demarcation of the lower boundaries of the forests selected under the Bashahr lease has fairly advanced, and pillars have also been put up where such forests are bounded by, or include, cultivation ; but as yet only 29 square miles out of 135 are completely surrounded by pillars. A table of the present state of demarcation will be found in the Appendix.

32. *Jhelum Division.*—In this division both the reserved and unreserved forests are completely demarcated with pillars. The boundary marks are reported, however, to be much out of repair in many instances, and a thorough inspection of the boundaries is projected for the next cold season.

33. *Gujránwála Division.*—About 14 miles of reserve boundaries remain still to be demarcated: 158 trenches a chain long × $\frac{3}{4}$ feet × 2 feet have been dug round those reserves in the Gujrat District which formerly were only demarcated by pillars at the angles.

The older boundary marks have been inspected and repaired.

A table showing the detail of the work done may be found in the Appendix. The whole of the protected forest area and all unreserved forests remain still undemarcated. Preliminary demarcation has been carried out in the Bera rakhs. 2,114 small mud pillars were erected at a distance of three chains apart on a total length of 79 miles. These will have to be replaced by more permanent boundary marks.

The work of demarcating these protected and unreserved forests is of great importance, and a statement has therefore been entered in the Appendix showing what has been done towards the demarcation of protected and unreserved forests, and what has still to be done.

34. *Lahore Division.*—Reserve rakh Bahouru in the Amritsar District was demarcated during the year by 39 masonry pillars. The demarcation of Sarai Amánat Khan reserve, which was in abeyance in consequence of some boundary dispute, was completed by the erection of 148 mud pillars and 48 masonry boundary marks. The mud pillars will be replaced by masonry marks: 98 of these, dividing the mafidárs' lands from the reserve, have to be built by the mafidárs, in accordance with the Settlement records The reserves Shahdara, Jugian and Mahmúd Búti were permanently demarcated by 33 masonry pillars. All formerly existing boundary marks have been inspected and repaired. A statement of the present state of demarcation is recorded in the Appendix.

With a view to the more complete demarcation of the already demarcated reserved forests in this division, 81 new masonry pillars and 188 new mud pillars were erected during the year, and 848 mud pillars were repaired. The boundaries of several reserves in Chánga Mánga, Sharakpur and Lahore were trenched by 70,896 running feet of trenches.

In the rakhs Chunián and Turkwind trenches 10 feet long × $\frac{1}{4}$ × 1 foot were dug on each side of the mud pillars in the direction of the boundaries, and at the bottom of these trenches charcoal was stamped in. These marks are not easily obliterated, and are no doubt an additional security to the safety of the boundary line specially recommendable where the boundaries are marked by mud pillars only.

A record of the boundary work done will be found in the Appendix.

35. *Mooltan District.*—In the Montgomery range eleven reserves with a boundary length of 97½ miles have been demarcated by a cleared line 20 feet broad, on which all roots of trees have been stubbed out. Our boundaries in this range now consist of 176 miles of cleared boundary lines and 19 miles of road and river, giving a total of 195 miles. These boundaries include the police and district rakhs near Montgomery, and 6½ miles will therefore probably have to be re-cut.

In the Mooltan range the cutting of lines round the reserves was completed, but the grubbing out of roots could not be finished, as the ground was too hard and baked.

The entire length of boundary lines round reserves in the Montgomery and Mooltan ranges amounts to 358 miles.

36. *Phillour Division.*—The boundary line at Sabáthu has been settled during the year at a loss of some of the land originally made over to the Forest Department, but my information regarding the alteration is uncertain.

The boundary dispute between Government and the Lambardár, Dalíp Singh, has been settled in March 1882, as already reported last year, and the boundary is now marked out by 28 masonry pillars.

CHAPTER II.—SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

37. Convinced as I am of the importance of this Chapter, I regret in proportion the scantiness of information at my disposal, and trust it will be taken into consideration that I am but lately transferred to the Province, and that the instructions regarding the re-arrangement of the annual reports reached me too late to influence the arrangements of Divisional reports, which had already been submitted or were in course of submission. A statement of reserved areas surveyed will be found in the Appendix, of which the following is an abstract :—

Abstract Statement showing Area in each division surveyed and not surveyed.

Division	Area surveyed	Area not surveyed	Total
	Acres	Acres	Acres
Hazára	151,372	...	151,372
Rawalpindi	...	66,971	66,971
Chamba	3,407	113,874	117,281
Beas	...	37,486	37,486
Bashahr	...	115,200	115,200
Jhelum	117,157	...	117,157
Gujránwála	15,591	33,382	48,973
Lahore	22,932	1,911	24,843
Mooltan	...	124,800	124,800
Phillour	913	...	913
TOTAL ...	311,372	493,624	804,996

	Acres
Reserves	
Surveyed ...	307,965
Not surveyed...	264,550
Total ...	572,515
Forest under Leases.	
Surveyed ...	3,407
Not surveyed...	229,074
Total ...	232,481
Grand Total ...	804,996

The reserves in the Gujránwála District sanctioned in *Punjab Government Gazette* Notification No. 284 of 13th July 1882, have been surveyed and mapped during the year, and their areas have been calculated, showing a total of 1,639 acres less than in former returns. However, as the work has not yet been checked by the Divisional Officer, the areas given in former returns have been retained in form 49 till such check to the survey has been applied. The reserved belás in the division have also been surveyed and mapped, but the maps do not as yet bear the Divisional Officer's attestation of correctness.

The Jhang tract, 129 square miles in area, Rakh Rasúl of Bhera Tahsíl, and the unreserved Belás Gulábgarh, Talianwali and Santpura have been surveyed and mapped during the year, but this survey also has not been checked as yet.

38. The following working plans, none of which can attempt to be more than a rough and preliminary sketch, are in existence :—

Working Plan for Kálatop	1873
„ „ for Chánga Mánga	1874
Suggestions regarding demarcation and management of the Kulu forests	1876
Plan of operations Simla Municipal forests ...	1876
Preliminary working plan for the Sarai Sidhu forests, Mooltan Division	1879
Preliminary working plan for the Khánpur range rakhs (Hazára Division) ...	1879
Suggestions regarding the management of leased forests in Bashahr	1881

The proposals of the Kálatop working plan have now for some years past been generally adhered to, and from a cursory inspection I have no reason to doubt but that a great portion of the Kálatop forest will be transformed into deodar forest of high character as contemplated by the working plan. This transformation may perhaps be somewhat quicker than was expected. The pernicious influence of even limited grazing in the open compartments was underrated. The transformation of the rhododendron, compartment No. 12, seems to be more difficult than was anticipated, but for years this had not been attended to.

Chánga Mánga has not been worked on to coppice under standard plan originally proposed, but as experience has shown in Jugian that some coppice freely under standard trees, some 10 to 15 selected trees per acre will be left in this year's cuttings.

The suggestions for demarcation and management of the Kulu forests are in abeyance.

The plan of operations for the Simla Municipal forests has formed a part of the Municipal library, but apparently served no other practical purpose.

The suggestions regarding the management of the leased forests in Bashahr have been generally adhered to, and have proved most practicable.

I am sorry to say that I have no information whatsoever on the working of the two preliminary working plans of 1879.

CHAPTER III.—PROTECTION AND IMPROVEMENT.

1. Establishment.

39. Major G. J. van Someren assumed charge of the Department from Major Bailey in May 1882, and held charge till January 1883, when he was relieved by me, the writer of this report.

Mr. W. D'Arcy, Assistant Conservator of Forests, joined in March 1883, and was as a temporary measure posted to the Rawalpindi Division

Mr. F. D'A. Vincent, Assistant Conservator of Forests, was transferred to Madras; and Mr. E. Forrest, Deputy Conservator of Forests, was posted to the Hazára Division on return from furlough in June 1882, and placed on special duty in connection with the demarcation of the Hazára village forests.

The re-organization of the superior staff in accordance with Government of India Circular No. 17, dated 20th November 1882, was carried out during the year.

40. The total monthly sum sanctioned for subordinate establishment amounts to Rs. 9,043, and within this limit the Conservator of Forests has the power of entertaining the establishment required.

The total saving under this head still amounts to Rs. 272 per mensem, but an increase is required in the lower protective establishment of several of the divisions, especially in Hazára, Rawalpindi and Mooltan. Provision has also to be made for reasonable prospects of advancement for a considerable number of probationers and non-commissioned officers appointed within the last two years.

The organization of the subordinate establishment is therefore a pressing measure, and I trust that I shall be able to submit definite proposals to that

effect when laying the scheme of making the Forest Officers assistants to the Deputy Commissioner of the district, before Government.

41. The following native non-commissioned officers have been appointed since 1880-81 :—

1880-81	...	Naik Jeymal Singh, of the 26th Punjab Native Infantry.
1881-82	...	Havildár Sádhu Singh, of the 14th Sikhs.
1882-83	...	Duffadár Sundar Singh, of the 12th Bengal Cavalry.
"	...	Lance-Duffadár Natha Singh, of the 19th Bengal Lancers.
"	...	Duffadár Ahmed Ali Ján, of the 12th Bengal Cavalry.

Naik Jeymal Singh has been serving in the Jhelum and Rawalpindi Divisions, and has been well reported on by both Divisional officers. Havildár Sádhu Singh, who has the advantage of knowing English extremely well, has made the most promising beginning of a career in the Forest Department. He was first posted to the Chánga Mánga plantation, where he made rapid progress in learning his work. He was selected to attend the Forest School, where he stood fourth amongst all candidates of his year, and first in surveying, gaining the surveying prize. He has since then worked hard, honestly and well, and is now attending his second course. I intend placing him next season into a hill division to learn deodar planting and river work, and thereby to complete his education.

It is too early to report about the non-commissioned officers who joined during 1882-83, but I would urge that all future appointments be restricted to men who know English. All instructions in the Forest Department are given in English, and, as none of the Forest books are written in Hindustani or Persian, it will be impossible for men who only know oriental languages to compete with those who have undergone a course of theoretical instruction, and who are able further to instruct themselves by the study of standard works.

42. Foresters Fazl Dín, Daulat Rám and Moti Singh obtained their Ranger's certificates from the Forest School, and were promoted to Rangerships. In addition to these the Forest School was attended by Mr. Barrett, probationer, Havildár Sádhu Singh, already mentioned, and Foresters Ráma Nand and Ghulám Muhammad.

43. Among the upper subordinates, a ranger, Kirpa Rám, was appointed probationer ; Babu Gobind Rám, a most promising ranger, died after a short illness ; and one ranger was discharged for misconduct.

I regret that I have to report the murder of a Forest guard near Attock, this being the second case within the same forest area. The murderer has been sentenced to death.

44. A case of murder was brought against a forester and two guards in the Pabbi range ; they resisted the forcible release of trespassing cattle, and were so far justified. It was, moreover, more than doubtful whether the death reported had anything to do with the affray. They were acquitted.

2. Breaches of Forest Rules.

45. A considerable increase of forest offences has taken place in all but the Beas and Gujránwála Divisions, but as the percentage of convictions of cases tried during the year under review has increased from 71 to 75, this only proves in the first instance greater vigilance on the part of the Forest Department, and, as regards the increase of the percentage of convictions, that on the whole greater discrimination has been used in committing offences for trial. The valuable help of the police in prevention and discovery of forest offences has been generally acknowledged, and only one division complains with regard to their non-interference without an order from a Magistrate.

The number of cases tried during the year amounts to 927 against 716 during the previous year, and 24 cases less are pending at the end of this year.

The following table is a summary of form No. 52 :—

Divisions	Pending from 1881-82	New of 1882-83	Total for trial	Concluded in 1882-83	Convictions	Acquittals	Cases pending at close of 1882-83
Hazára ...	11	135	146	139	100	39	7
Rawalpindi ...	40	174	214	193	109	84	21
Chamba ...	6	23	29	28	19	9	1
Beas ...	28	132	160	150	135	15	10
Bashahr ...	6	45	51	32	30	2	19
Jhelum ...	...	136	136	134	123	11	2
Gujránwála ...	6	66	72	66	54	12	6
Lahore ...	...	31	31	30	20	10	1
Mooltan ...	32	129	161	124	86	38	37
Phillour ...	1	32	33	31	22	9	2
TOTAL ...	130	903	1,033	927	698	229	106

46. In the *Hazára Division* 78 new cases of forest offences were brought to court in excess of last year, but the percentage (72) of convictions is respectable. Of the 135 new offences brought to trial, 57 were committed in the Khánpur Tahsíl. The fines inflicted in Hazára amounted to Rs. 10,356, of which the greater part was inflicted for firing forest reserves.

The increase in the *Rawalpindi Division* of new cases brought to trial amounts to 79, the total to 174, but here only 56 per cent. of convictions were obtained.

A large increase of offences also took place in the *Jhelum Division*, but the convictions amounted to 92 per cent. The sudden increase of offences in the Jhelum Division is due to frequent and rapid rises in the river carrying down large quantities of drift timber, which greatly facilitated theft of timber in transit.

In the *Lahore Division* the percentage of convictions is 66, in *Chamba* it amounts to 68, in *Mooltan* to 70, in *Phillour* to 71. In *Gujránwála* 82 per cent. of convictions were obtained, on the *Beas* 90 per cent., and *Bashahr* heads the list with 92 per cent. of convictions.

Subjoined is a table comparing the different kinds of offences committed during the last three years :—

Nature of offences	*Number*			Increase over previous year	Decrease over previous year
	1880-81	1881-82	1882-83		
1. Injury to forests by fire ...	105	92	119	27	...
2. Unauthorized felling or appropriation of wood or minor produce ...	389	382	431	49	...
3 Grazing without permission ...	272	149	169	20	...
4. Other offences ...	109	87	184	97	...
TOTAL ...	875	710	903	193	...

This table shows an increase under each class of offences.

47. In the *Hazára Division* the chief increase is under injury by forest fires and unauthorized felling; in the *Rawalpindi Division* under unauthorized felling; in *Jhelum*, as already noticed, under offences under the river rules; and in *Mooltan* under unauthorized felling and grazing.

The offences under grazing without permission have slightly increased, but less cattle have been rescued by force than in former years.

48. The establishment of some new cattle pounds in the vicinity of some of our reserves, especially in the Hazára and Lahore Divisions, is required, for at present the guards have to drive the cattle a long way to the pounds, and the villagers, well aware of the absence of protection, graze in the meantime large numbers of cattle within the reserves.

3. Forest fires.

49. The subjoined statement shows that 163 fires took place in the forests under the charge of the Forest Department, the area burnt through amounting ot 30,796 acres :—

Divisions	Number of fires	Estimated area over which the fires spread
		Acres
Hazára	30	14,350
Rawalpindi—		
Murree Tahsíl	19	6,000
Rawalpindi „	3	
Chamba	6	5
Beas—		
Kulu	16	235
Nurpur	15	2,070
Dera	7	70
Bashahr	20	543
Jhelum	.	
Gujránwála	5	53
Lahore	19	862
Mooltan	20	6,604
Phillour	3	4
Total ...	163	30,796

50. This is a very serious increase over the area burnt in 1880-81 and 1881-82, but what is still more to be regretted is that in the Hazára Division, where the main increase took place, it is with good reason believed that the zamindárs, designedly and *malprepense*, allowed the fires to spread from their own grazing grounds into the Government forest reserves. It is reported that on one occasion the zamindárs, when called out to assist to put out a fire, were seen to set fire to the grass as they went along instead of extinguishing it. Twenty-nine firing cases were tried during the year in the *Hazára Division*, and as twenty-eight convictions were obtained and 6,228 rupees of fines were inflicted, no fault can be found either with the vigilance of the forest officials or undue leniency on the part of the convicting officer.

It might probably be advisable to inflict, in this district and in the Murree Tahsíl, rigorous imprisonment on the offenders instead of fines, and to withdraw under Section 25 of the Forest Act all forest rights from villages implicated, for the space of one or two years. With regard to this latter step I have addressed the Divisional officer.

51. In the *Beas Division* a fire in the Bindraban reserve was proved to have been caused either by criminal negligence or intent, and the offender was punished with three months' rigorous imprisonment, in addition to a fine.

52. A fire in the *Mooltan Division* in the Kalera reserve, burning over 3,280 acres, is suspected to have been caused with intent by some inhabitants of the Tara village, with a view of improving the grazing in the rakh. Not a single man of this village, containing about 100 houses, turned out to extinguish the fire, though help from other and further villages was readily obtained.

In this case also proposals will be submitted to exclude this village for a year or two from all grazing in the Kalera reserve.

The rest of the fires were all due to carelessness or pure accident. Most of them were caused by careless burning of grass land, some by grasscutters, one

by a soldiers' shooting party, and four by sparks from locomotives. In all of these cases the ready assistance rendered by the inhabitants of neighbouring villages has to be acknowledged.

4. Grazing and Fencing.

53. The following is an abstract of all areas closed against grazing :—

Divisions	Area closed			Remarks
	Entirely	Part of the year	Against camel, goats and sheep	
	Sq miles	Sq. miles	Sq. miles	
Hazára	141	.		
Rawalpindi	78	...	.	
Chamba	4	...	...	
Beas	58	...	...	
Bashahr	2	...	...	
Jhelum	23	...	47	
Gujránwála	6	33	148	
Lahore	42	...	...	
Mooltan	42	23	...	
Phillour	2		...	
Total ...	401	56	195	

This area, if compared with the whole grazing grounds of the Province being the property of Government, and amounting to above 18,000 square miles, is extremely small.

54. *Hazára Division.*—In the Hazára Division the following areas were closed against grazing :—

Khánpur range	...	...	...	50 square miles
Dungagali	...	...	...	64 "
Khagan	...	...	...	30 "

or 144 square miles out of a reserved area of 236 square miles, 1,204 square miles under the management of Civil officers being entirely open.

The fence round Changlagali plantation was kept in good order.

55. *Rawalpindi Division.*—No alteration took place, but as four square miles of the Margalla reserve are burdened with grazing rights, the area closed is reduced to 78 square miles out of a total of 650 square miles of reserves, protected and unreserved forests under the control of the Forest Department, 150 square miles under the management of the District officer being entirely open.

56. *Chamba Division.*—The area closed during the year amounted to 2,546 acres, or about 4 square miles, comprising Kálatop, Bakloh, Bassu plantation, and several small plantations.

Under Mr. McMoir's settlement of the Bhandal valley, 7,240 acres were permanently closed against grazing. This was approved of by the Punjab Government as well as the Superintendent of Chamba, but during a recent inspection I found that the conditions of the settlement had not only never been enforced, but that they were unknown to the people interested. The areas closed for grazing must be specially demarcated.

I am unable to report the areas to be closed against grazing under Mr. Vincent's Settlement. His general report does not contain any information on the point, and his detail settlement records are not at my disposal.

The fences round Kálatop and Bakloh have been kept in thorough repair.

57. *Beas Division.*—The areas closed against grazing have been increased only by 78 acres in the Kulu valley, and about 5 square miles in the Kángra forests. The total forest area in the Beas Division from which grazing is entirely excluded amounts to 58 square miles, comprising nearly the whole of the area at present reserved, excepting the Gagriwál reserve, where grazing is allowed on payment, and part of the Bindraban and Kárnpur bamboo forests and Lohara reserve, where grazing rights exist.

In the Kulu valley the reserved forests are fenced either with wire or thorn, or by a quick-set hedge of *Prinsepia utilis.*

During the year only 3 miles of new fencing was done, and 2 miles were repaired.

58. *Bashahr Division.*—The Deputy Conservator has closed all deodar forests to grazing wherever the people can provide grazing elsewhere, but has not placed any restriction on flocks and herds passing through the forests on their way to the high pastures. They are, however, not allowed to stop and graze. The forest area fenced amounts to 1,400 acres only.

59. *Jhelum Division.*—The rakhs closed against grazing of all kinds of cattle amount to 23 square miles, and comprise 4 rakhs and 6 belás. In addition, 9 rakhs and all belás on the Jhelum river, comprising 47 square miles, are closed against camels, goats and sheep. Considering that the whole forest area of the Jhelum and Shahpur Districts, including that under district management, amounts to 1,779 square miles, the closed area is extremely small.

60. *Gujránwála Division.*—Out of the total of 672 square miles under control of the Forest Department, or 3,756 square miles if the areas managed by District officers are added, only 6 square miles were closed entirely—all of which are situated in the Gujrat District—not quite 33 square miles during part of the year, and 148 square miles against camels, goats and sheep.

Out of the whole forest area in this division at the disposal of Government, therefore, not even 2 per cent. were closed entirely, and not even 4 per cent. are closed against the grazing of camels and goats.

In 33 square miles of the land under the control of the Forest Department the grazing was managed departmentally; 639 square miles were leased out in accordance with Financial Commissioner's Circular XV of 1879, preference being given to local zamindárs.

61. *Lahore Division.*—The area closed in the division is about 42 square miles, of which about one-half are plantations, the rest military grazing grounds.

A statement has been prepared showing the different classes of cattle grazing in each rakh, with the names of the villages to which they belong.

An abstract shows that the number of animals grazed per 1,000 acres amounts to 38 buffaloes, 138 cows, 177 sheep or goats, and about one ass for every 2,000 acres.

62. *Mooltan Division.*—Out of 197 square miles of reserves, only 42 are closed entirely, and 23 square miles during the rains. This area is insignificant if compared with the forest area at the disposal of Government, amounting to 6,869 square miles.

No alteration has taken place in the Phillour Division, where about 2 square miles are closed to grazing.

5. Natural reproduction.

63. Of the Divisional reports, only those for Bashahr, Chamba, Gujránwála, Phillour and Lahore mention this subject in a very superficial way; the others are silent, and as I have as yet visited but a limited area of the forests under my charge, I can do little more than promise a more satisfactory treatment of the question in my next report.

Natural reproduction of Alpine Forests.

64. In *Bashahr*, where both grazing and fires have been kept out of the deodar forests, the natural reproduction, partly pure, partly mixed, is in most localities reported as improving and spreading. In the Tranda forest 600 trees of inferior species were ringed to encourage the crop of deodar saplings.

65. I revisited some of the forests in the Kulu valley after an absence of thirteen years, and here also natural reproduction has made great progress. In the fenced forests round the Dungri temple, natural reproduction—assisted, however, by planting—is perfect, but it has spread as well in unfenced localities since forest fires were effectually stopped. In open localities the seedlings of the blue pine almost always outnumber the deodar, even where deodar seed bearers are in excess of blue pine parent trees ; but this can be hereafter corrected.

66. In the *Chamba Division* natural reproduction in Pangi, where the forests suffer neither from fires nor from grazing, is said to be very good.

In the Bhandal valley, the forests of which I visited since my return to the Punjab, reproduction is very patchy, and has decidedly suffered from grazing.

In several forests, with an excellent soil and good parent trees, reproduction is made impossible by a dense undergrowth of deciduous trees and shrubs, amongst which wychhazel (*Parrotia Jacquemontiana*) is perhaps the most frequent. Exclusion of all grazing and liberal use of the axe amongst the undergrowth will no doubt insure a good natural crop of seedling.

In the Kaintli forest, which I had not seen for eleven years, and the upper parts of which at that time consisted of old stagheaded deodar trees without undergrowth, a fine crop of seedlings has sprung up even on the grassy slopes, and to some extent even on slopes with a southern aspect. This is entirely due to exclusion of grazing and fires.

In Kálatop the natural reproduction that has taken place under the total exclusion of grazing is remarkable, and even on southern slopes seedlings have sprung up here and there.

This is enough to show that deodar and the other Himalayan pines are sufficiently generous in their natural reproduction, provided all grazing and firing is excluded. The rapid reafforesting of maltreated forests and barren slopes must of course not be expected without artificial help.

Natural reproduction in the lower hills.

67. The reproductive power of chíl forests is sufficiently proved by the rapid and thorough reproduction of the Bakloh forests immediately after they had been closed against grazing and firing, and protected by a fence.

Natural reproduction of hilly Rakhs.

68. The natural afforestation of the closed areas in the Pabbi is very remarkable. I have examined this area in detail, and found numerous natural seedlings of phulai, and, near the banks of the small streams intersecting the reserve, of sissú ; but even a casual observer passing through the rakh in the train must notice the difference in appearance between the closed and unclosed portion of the hills.

It cannot be expected that natural afforestation of these hills, which, judging from their rugged and waterwashed appearance, must have been barren for a long time, can at once be complete ; but the beginning is made, and I have great hopes regarding the ultimate success, especially since revisiting the rakh near Rawalpindi known as the Park. I knew this rakh fifteen years ago, when it was covered by a few scrubby bushes ; it is now a forest, and the ground is thoroughly covered.

Natural reproduction in Bar rakhs.

69. My information regarding natural reproduction in the Bar rakhs by seedling as well as by coppice is too scanty to be noted in this year's report.

Natural reproduction in Sailába and Belás.

70. In the sailába plantations and belás the areas felled coppice well, and the growth of the new shoots is very rapid.

Naturally-sown sissú seedlings have been observed, but I doubt that they will be able to keep pace with coppice growth.

71. In the Ludhiána plantation, which is liable to be flooded, it is reported that trees which were stubbed out, in many instances did not coppice at all, or, when they coppiced, that the young shoots are very poorly and small, if compared with those from stumps left above the ground.

In Phillour plantation it was also observed that the coppice from stubbed trees was very inferior; in this case I must however remark that the Phillour plantation was stubbed out to a great depth, much deeper than was contemplated.

IRRIGATED PLANTATIONS.

72. The coppice of sissú in Chánga Mánga is very promising, growing equally well from trees cut flush or stubbed out. Worthy of notice is the large number of root shoots which are springing up between the lines.

Experience gained from the cutting of 1880-81 shows that the growth of kána interferes greatly with the coppice growth, and that it is necessary to keep these grasses down for several years, which can be done at a small annual outlay, whereas their removal in the second and third year is a question of serious expense.

6. CULTURAL OPERATIONS.

73. The details of plantations and cultural operations are given in form No. 50, of which the following are abstracts :—

PLANTATIONS.

DIVISION	*On 1st April 1882*		*Added during year*			*On 31st March 1883*		REMARKS
	Area	Cost	By corrections Area	Area	Cost	Area	Cost	
Hill Plantations, regular								
Beas ...	6	1,706	...	...	29	6	1,735	
Bashahr ...	6	586	...	...	...	6	586	
Total ...	12	2,292	..	...	29	12	2,321	
Rakh and Plains Plantations								
Jhelum ...	325	2,108	...	...	257	*125	2,365	*200 acres lost by river action.
Gujránwála ...	567	7,346	...	...	...	567	7,346	
Lahore ...	13,845	5,17,755	...	...	19,705	13,845	5,37,460	
Phillour ...	699	41,222	...	95	1,907	775	43,129	
Total ...	15,436	5,68,431	...	95	21,869	15,312	5,90,300	
		CULTU	RAL	OPE	RATIO	NS.		
Hill Plantations								
Hazára ...	67	3,477	...	...	57	67	3,625	
Chamba ...	174	7,768	...	...	991	176	8,805	
Beas ...	102	17,085	28	78	1,218	208	18,303	
Bashahr ...	206	293	4	7	224	217	*1,895	* Rs. 1,378 omitted by Divisional officer last year.
Total ...	549	28,623	32	85	2,490	668	22,628	
Rakh and Plains Plantations								
Jhelum ...	...	...	...	1	274	1	274	
Gujránwála ...	200	16,712	...	41	1,117	241	8,107	
Lahore ...	...	14,225	...	...	1,179	...	15,404	
Mooltan ...	4	158	...	124	546	128	704	
Total ...	204	31,095	...	166	3,116	370	24,489	

Cultural Operations in the higher Hills.

74. The area of regular deodar plantations was not increased during the year, but under cultural operations, which, though not entered under the heading of regular plantations, give in most cases the same final result—an increase of 85 acres is noted. I have omitted the sowing operations during the year from form No. 50. They are still very uncertain, and it will be better that they should be entered into the form during the next year, when the degree of the success of the work can be gauged.

A perusal of the paragraphs referring to Chamba, Beas and Bashahr Divisions will show that the success of deodar cultivation by means of nursery-raised transplants has been reduced to as great a degree of certainty as is attainable in arboricultural operations.

75. *Hazára Division.*—In the Hazára Division two maunds of deodar seed was sown in the Kághan range, and two maunds of deodar and one maund of blue pine seed in the Dungagali range. The success or otherwise of sowing has not been reported.

76. *Rawalpindi Division.*—No arboricultural operations took place in the upper forests in the Rawalpindi Division. The time of the forest staff in this division has for years been entirely taken up by selection and demarcation of reserves, and no actual forest work has been undertaken. As already stated, it is hoped that the reserved and protected forests in the Murree and Kahuta Tahsíls will be made over to the Department during this season; and next spring ought to see the beginning of works of improvement, which have for years been unavoidably neglected.

77. *Chamba Division.*– The necessary attention had not been given to nurseries in Kálatop and the rest of the Chamba Division for some years past, and the consequence was that only 3,516 plants were fit to be put out during 1882-83, and that hardly any sufficiently old plants are available in 1883-84. The small stock in hand was put out into blanks in Kálatop compartments 5-7 and 8, at a cost of Rs. 45-0-0. The work was inspected by me in April, when I found that but a very small number of plants had died, the rest looking strong and healthy.

Seven nurseries were opened out in compartments 7, 8, 11, 12 and 20, so that the planting material need not be carried any long distance, which otherwise greatly adds to the cost of cultural operations.

It is hoped that in future years a considerable surplus supply of seedlings of sorts will always be made available for the planting up of the bare slopes in the Dalhousie sanitarium.

One hundred acres in Kálatop were also sown with deodar seed, at a cost of Rs. 122-0-0, in prepared places, generally 5 feet apart. Germination was perfect, but of course most of the seedlings in exposed places will die during the hot weather. The work is very cheap even if only one-quarter of the seedlings takes root, and should be persisted in in all localities where grazing is excluded. An admixture of blue pine will, I believe, make this cultivation more certain of success, and improving the character of the forests is comparatively easy where once the ground is covered.

The compartments in Kálatop previously planted have been carefully inspected, and the area fully stocked with transplants is set down as 114 acres.

There are still considerable areas requiring to be planted up artificially for want of seed bearers, and nurseries must be kept up for another six or seven years.

In Kaintli 10½ acres of blanks were sown in holes at a cost of Rs. 33-12-0. The seed germinated well, and it is hoped that a fair percentage will last through the hot weather.

Considering, however, that the blanks in Kaintli consist of those areas which did not reproduce in spite of seed bearers standing well, dispersed over the area, cultivation by sowing even in prepared holes must remain problematical, and for these reasons a nursery is under preparation.

Here again the blanks should be sown with blue pine.

In the Bassu plantation 29,700 holes were prepared and sown, and germination is reported as perfect.

A small area in the Chad Bent forest has been sown in prepared holes, and has been hedged round.

The forests in the Bhandal valley have splendid soil ; natural reproduction, though very patchy, is generous wherever it has a chance, and I am of opinion that, as soon as the grazing question has been ultimately settled, the areas from which grazing is entirely excluded should be fenced, and be converted into pure deodar forests, by assisting natural reproduction and by artificial cultivation.

In the Pangi range 5,120 walnuts were put out at Rangi, but no other cultural operation took place.

78. *Beas Division.*—The following table will show at a glance the cultural operations carried on during the year in the Kulu range :—

Manalgar ...	28,665 deodar seedlings put out.	4 Nurseries formed ...	5 maunds deodar seed sown in patches.
Sial Bial ...	2,086 Ditto ..	...	...
Banaun ...	12,516 Ditto ...	3 Nurseries formed ...	4 maunds.
Batar Bial ...	...	...	1 maund deodar in lines.
Sandhar ..	150 Ditto ...	...	3 maunds do. in patches.
Latura ...	886 Ditto ..	...	1 maund 10 seers do.
Blajdhar ...	3,134 Ditto ...	...	3 maunds 20 seers "
Solanú ...	310 Ditto ...	...	24 seers "
Bakriala ...	1,575 Ditto ...	...	...
Shelinghar ...	1,600 Ditto ...	...	...
Bindraban (Parbati valley) ...	...	...	3 maunds 7 seers.
Thus ...	50,922 deodar seedlings were planted out.	7 Nurseries were formed.	And some 21 maunds of deodar seed sown in patches and in lines.

In addition to this, the Ragopur landslip, about 18 acres in extent, which endangered a village below, was fenced and sown with deodar, blue pine, spruce and silver fir seed.

The greater part of the cultural operations is reported successful, and those inspected by me at Manalgar reflect great credit on Mr. Gisborne Smith, under whose supervision they were executed.

79. *Bashahr Division.*—Due to the almost total absence of deodar seed, the cultural operations were confined to a small area.

Seven acres of deodar transplants were put out during the rains—2 acres at Kunhi and 5 acres at Kum Kumi—with only 7 casualties.

Two acres were sown with deodar in patches at Nachar during the rains, and on strips at Sapui in November. The seed germinated well, and those sown in the rains even more freely than the November sowings.

Last year's sowings are flourishing at Nachar, but at Punang and Sapui, where the rainfall has been under 23 inches, the success has only been partial, and many of the existing seedlings do not look healthy. Several nurseries will be established during the next good seed year.

Cultural Operations in the lower Hills.

80. The complete afforestation of the now, in many instances, almost barren forest land in the lower hills, is, for the country at large, probably the

most important forest question in the Province. Much can no doubt be left to natural reproduction if fire and grazing are excluded, but in many places—for instance in the Pabbi and the Chos—the once common trees have entirely disappeared, and in the absence of parent trees artificial cultivation must be resorted to.

The record of this year's work would hardly seem to show that the importance of the work has been recognized by the Department. But this is not the case. The difficulty lies in the acquisition of land free from grazing rights, for, with such rights in existence, the money spent on artificial cultivation is wasted.

The forest settlement in the Jhelum and Rawalpindi Districts nearing completion, more activity in artificial afforestation of the lower hills may be expected.

81. In the *Hazára Division* only 2 maunds and 30 seers of chíl seed was sown on barren places in the Khánpur range, and in the Rawalpindi Division only about 20 acres were sown with phulai, and sanatta in the Khairi Murát reserve.

82. In the Núrpur range, *Beas Division*, 10 acres of blanks were sown in the Chitril, Tatal and Bindraban reserves. The success was good in the two former reserves, but only partial in Bindraban.

Tún and sissú plants were planted out round the Forest house at Chitril, and 1,700 bamboo stumps were put out into some deserted fields in the Dhamtal reserve. Of these latter 80 per cent. succeeded, covering an area of 5 acres.

In the Dera range 14 acres were sown with chíl seed and sissú, succeeding fairly well.

Out of 85 *Bambusa arundinacea* stocks put out in the Bajura forest, 70 succeeded; the success of the planting of some 750 tún and sissú plants is reported to be but partial.

Kikar seed sown in the Gagriwál rakh germinated freely, but only few of the seedlings have survived.

83. *Jhelum Division.*—In this division the beginning has been made in artificial cultivation of the lower hills by the establishment of nurseries in the rakhs Gandala and Tilla, which are reported to be successful.

84. *Gujránwála District*—The cultivation in the Pabbi deserves notice at somewhat greater length.

During the year 245,300 running feet of trenches were sown as well as 1,552 mounds, and 8,455 transplants were put out. The whole work cost Rs. 986, including Rs. 311 on account of retaining-dams. The cultural operations commenced on the 4th July and continued without interruption up to the 5th of August.

The trench and ridge system, which proved successful the year before, was the chief method of cultivation wherever practicable. The main improvement in the manner of cultivation was to place the trenches nearer together. They are now 6 feet apart, which prevents erosion—the chief danger of the same system when the trenches were 12 feet apart. The area operated upon last year at 12 feet distance was intertrenched.

Kikar and phulai were the chief seeds employed; but the following species were also sown:—sanatta, sissú, chíl, rerú, jhand, Mysore thorn, and mesquit, the *Prosopis glandulosa* of Texas.

The chíl seed was largely carried away by birds, but what remained and the seed of all other species germinated freely. A considerable quantity of chíl and rerú seedlings dried up, but those of all other species have maintained themselves thoroughly.

Of the transplants, phulai succeeded best. The willow slips took root, but dried up, 50 only being alive at present out of several thousands put out. One acre was ploughed and sown; the success of this operation is fair.

I inspected the Pabbi in March, and must record that the greatest credit is due to Messrs. Wild and Lace for the manner in which these cultural operations have been carried out under especially difficult and trying circumstances, every part of the work showing detail supervision.

The sowings of 1881-82 have made considerable progress. The plants have grown best on the deeper trenches and mounds, where many of the kikar have obtained a height of from 8 to 10 feet. Of the sowing of February 1882, most of the kikar and phulai, which germinated before the rains, died during the hot weather; while much of the seed that remained on the ground without germinating was eaten, carried away, or rotted. The sissú seed did not germinate before the rains, but nevertheless produced finer and healthier plants than those of the rains sowings.

The larva noted in last year's annual report, paragraph 86, continued its ravages during the early part of the year; since then it has not appeared, and is no doubt in a torpid state, as is the one kept for identification. Hares have also done a certain amount of damage.

85. *Phillour Division.*—The chíl sowings at Sabáthu were repaired, but again much of the seed sown was carried away by mice.

In addition to the chíl sowing, a large quantity of seed of other indigenous trees was dibbed in, *viz.*—Karak, biul *(Grewia opositifolia)*, bakain *(Melia azedarach)*, bahera, siris, ber and others. 116 walnuts and a few other ornamental trees were planted near the roads. Small nurseries were established, and numerous seedlings of various indigenous trees have been raised.

Cultural Operations in the Plains.

86. *Gujránwála.*—In Kikránwáli 2 acres were sown with kikar, phulai and sissú on ridges similar to those on the Pabbi, and 10,618 willow and 2,503 farash cuttings, and 1,400 young mulberry, sissú and kikar were planted out at a total cost of Rs. 110.

The sowings of July germinated perfectly: the February frosts, however, destroyed a large number of kikar, and the heat plays havoc with the sissú. Phulai seems unaffected by either, and the areas may be regarded as completely stocked. Mesquit and Mysore thorn, of which a small quantity has been sown, have succeeded, and do well. Of the willow cuttings only 10 per cent., and of the farash cuttings only 28 per cent., are alive. Two hundred and seven old stool pits and all road ditches were ridged and sown, making a total length of 5,037 feet. These sowings succeeded well.

In the Bhera range, 1,127 of last year's demarcation trenches, equalling 74,382 running feet, were sown with kikar, which germinated freely, and the young plants are reported to do exceedingly well.

87. *Lahore Division.*—In the coppice compartments 2 to 5 of the Chánga Mánga plantation all high places were sown with jhand, which germinated freely and is growing well.

In compartments 77 to 90, 140 acres of jhand seed was sown on ridges in patches 5 feet apart; this also germinated well, but only about 60 per cent. kept alive.

A nursery was made in the canal belt to supply coppice compartments with seedlings. In future small nurseries will be made in each two or three compartments so as to avoid cost of carriage.

Sissú transplants in compartments 2, 3, 5 did not succeed. It is reported that they were put out during the wrong time of the year, which is somewhat remarkable considering the experience to this effect recorded at Chánga Mánga. However, transplants put out during the rains did not succeed much better, and I attribute the failure more to the dense growth of kána grass, which in future will be kept down in any of the compartments felled for coppice.

During the year 6,088 acres were watered once, 2,225 twice, and 194 acres three times However, the watering arrangements are not in such good condition as I remember them some ten years ago when Mr. Minniken was in charge.

For some years after the plantation was let out for grazing, and the system of channels especially, the small final distributing feeders were damaged or destroyed. The beldars who were originally appointed to keep these water-courses in order were used for other works, and the first system of flushing the compartments—a system which originally prevented the rapid extension of the plantation, and was abandoned on due con-ideration—was re-introduced.

The consequence is that an enormous quantity of water is used, and that the plantation is most unequally watered—swamped in one place and starved in another. The Canal Department assert that we have used ten feet of water for some of the compartments.

Some 70 to 75 lakhs of running feet of trenching are out of repair, and to clear these out again at once would not only cost a large sum of money, but, now that felling operations are carried on, the labor would not be obtainable without an increase in the rate of wages. I am therefore trying to effect an improvement by clearing all trenches in the coppicing compartments as soon as they are felled, and by extending at the same time the work of clearing beyond these compartments, as far as beldar labor is available. I shall insist in future that all trenches thus repaired are kept in working order, and that every day a beldar is employed on a work different from that for which he has been appointed shall be noted, together with the reason why he was thus differently employed; as, in my opinion, the whole well-being of the plantation depends on keeping the watering arrangements in perfect working order.

A compartment can be watered by means of distributing trenches in one-fifth to one-seventh the time it takes to flush it.

Caterpillars attacked the plantation, especially the young coppice in May; but at the same time large flocks of starlings made their appearance, which should be *strictly* protected in future years.

The plantation has on the whole improved in health and appearance during the last few years, showing that somewhat better care has been taken of it.

In the *Shahdara-cum-Jugian* plantation six acres along the river-bank were planted up; the rest is left to natural reproduction, which is sufficiently generous; no assistance to natural reproduction has as yet been needed in the *Nag* plantation.

In *Kot Lakhpat* all blanks and failures were re-sown with jhand, and about 50 acres of new sowing were undertaken. The sowings were well watered by Persian-wheels, and are now in most places from one to two feet high.

The jhand sowings on mounds on bad kankar soil, on which no success could be obtained by ordinary means of cultivation, succeeded on about 30 to

40 per cent. of the area, and the plants are 1 to 3 feet high. Of the farásh cuttings put out, about one-half succeeded.

The side roots of a few jhand trees were cut just before the rains; they sent up vigorous shoots, and will doubtlessly form a separate tree by developing their own top roots.

90. In the *carob* plot near Lahore, two winding roads 25 feet broad and 4,158 feet long were laid out, and the whole plot is gradually transformed into a mixed forest of sissú and exotic trees.

7. Experiments.

91. *Rawalpindi Division.*—In the Goragalli garden, two *Eucalyptus globulus* have attained a height of 30 to 35 feet, but otherwise the report regarding the success of *eucalypti* in this division is unsatisfactory.

The trees of *Eucalyptus resinifera* at Bakloh are still alive, but have made hardly any progress.

The *eucalypti* in the Beas valley mentioned in last year's report paragraph 94, are alive and healthy, but they are of no sylvicultural value at all where they are exposed to snow, as they bend and break where an indigenous tree would hardly be inconvenienced.

The cultivation of *eucalyptus corynocalyx* did not succeed at Gujránwála.

In the *carob* plot at Lahore, 60 *eucalyptus pilularis* and 90 *eucalyptus citriodora* were planted out during the year, and 1,345 plants of *eucalyptus cornuta, alliqua, globulus rostrata* and *meliodora* are ready for transplanting.

In Chánga Mánga several thousands of young plants are ready to be put out, and 500 were planted during the year; some of the older trees flowered and seeded.

In Chánga Mánga and the *carob* plot we have now several thousands of *eucalypti* growing, in most instances vigorously and well.

The *carob* in the Kulu valley have severely suffered from frost.

In the Pabbi only 9 plants are alive, which do well.

The *carob* sown at Chánga Mánga in 1876 form now a shrubby thicket about 15 feet high; they flowered freely during the year, but, nearly all trees being males, a very limited number of pods was obtained.

In the *carob* plot at Lahore 300 trees have been planted out. The larger trees flowered freely, but only one tree had female flowers.

The young plants succeed best if they are put out before the cotyledons fall off.

European trees.

Oak, mountain ash, and broad leaved and small leaved elms are in existence in almost every hill division, but as yet they have nowhere made any appreciable progress in growth; whereas Spanish chestnut, olive and cork oak seem to acclimatize themselves much more rapidly.

In Bashahr, 36 ash and 28 sweet chestnut were transplanted to a higher elevation.

At Nachár some of the sweet chestnut bore fruit.

Four grafted olives were planted at Kilba, as well as 200 vine plants, all of which are doing well.

The Beas Division alone succeeded in raising a few plants from *Pinus Australis* seed, distributed amongst the different divisions.

8. Communications and Buildings.

93. In the Hazára Division it is reported that the road between Natiagali and Thandiáni was put into repair. The house at Thandiáni was re-roofed, and those at Dungagali and Changlagali underwent slight repairs.

The building of an office at Abbott-abad is urgently required.

94. *Rawalpindi Division.*—The Ghoragali Forest house road, much damaged by the rains, was repaired, and the Ghoragali-Kror road completed to its junction with the district road near Chakka, by an addition of 4 miles 1,452 feet.

The outhouses sanctioned for Ghoragali were built during the year, but the unusually heavy fall of snow destroyed the upper storey, which will have to be re-erected. The Ghoragali house was re-roofed and repaired.

Plans and estimates for a Forest house at Rawalpindi were made out, but sanction to build it was refused.

95. *Chamba Division.*—The road from Batrigali to the Kálatop Forest house was thoroughly repaired and improved, and a new road was made from the house through compartments 14 and 16. Several new pathways were also made. In a forest like Kálatop, where timber is carried by coolies out of the forests in shape of scantling, and sells readily in the depôt from 9 annas to Rs. 1-4-0 per cubic foot, every farthing spent on roads and paths is at once repaid by the facility of export; without even taking into consideration that it lessens the cost of transport of planting material, and makes thorough inspection much easier.

The usual annual repairs were made to the Forest houses at Mádhopur and Kálatop, and a bathroom was added to the rest-house at Bhandal.

A plan and estimate was made for a Forest house at Chamba to cost Rs. 8,000, including Rs. 1,100 compensation; but sanction was not obtained for the building. In the meantime compensation had been made and material had been collected, raising the amount outstanding against the house to Rs. 2,364, which will be repaid by the Chamba State, who have since then undertaken to build the house.

96. *Beas Division.*—In the Kulu range, 9½ miles of forest path, 3 feet wide, were constructed, 9 miles from the Beas to the Rájgiri forest, and half a mile of inspection road through the Manalgar plantation; 11¾ miles of forest road were repaired.

In the Núrpur range, the road from the Chitril Forest bungalow to the main Núrpur road was repaired.

In the river range the metalled cart-road from the Wazir Bholar main sale depôt was thoroughly repaired, as well as the country road leading from the Wazir Bholar depôt to the Beas railway station.

The Forest buildings at Manáli, in the Kulu range, were repaired, and a guard-house for the river guards was built by the Rájá of Mandi in his territory, and is now rented by the Punjab Forest Department.

In the Núrpur range a new hut was built for the guard in charge of the Talara and Kalak reserves, and the Chitril bungalow was slightly enlarged and repaired.

The Forest rest-houses at Hamirpur, Lohara, Pandain, Dera Baldoa and Kherián in the Dera range were repaired, as well as all buildings in the river range.

97. *Bashahr Division.*—Twenty-seven miles of the high level road between Narkanda and Serahan, formerly forming a portion of the Hindustan and Tibet road but abandoned in 1864, was re-opened as a riding road. This road passes through several of our forests, and facilitates inspection to a great extent.

25 miles of inspection path were made through the Kilba range, at an average cost of Rs. 18 per mile. This is a most useful road, passing through the Tenden, Tikru, Junpan, Phinla, Wachumchey and Punang forests almost at a level as far as the Punalang forest; then, zigzagging down about 2,000 feet, it crosses the stream, and passes up through the Khulangag forest to the Yani Dogri, and eventually winds through the Kustal and Dippi forests.

6 miles of path were made in the forests above Nachár, and this path will eventually be connected with the roads in the Kilba range.

6 miles of a bridle inspection path was also constructed in the Buspa valley, and connected with the above-mentioned Kilba-Punang path by a riding road 2 miles long.

When inspecting the Sutlej depôt at Phillour, I was struck by the less rockworn and rugged appearance of the timber; proving that a great improvement must have taken place in the transport from the forest to the river.

The following statement shows the great care taken as regards the improvement in timber transport:—

Name of Forest	Nature of works	Remarks
West Nachár ...	6 check walls 40, 35, 32, 30, 20 and 15 feet long, respectively ...	Averaging 5 feet high and 4 feet wide.
East Nachár ...	3 check walls, 120, 60 and 30 feet long, respectively ...	12 feet high and 8 feet wide.
Phinla ...	7 check walls averaging 45 feet long ...	9 " 6 "
Junpan ...	6 " " " 55 " ...	6 " 5 "
Tenden ...	2 " " 60 and 50 feet long, respectively ..	7 " 5 "
Kunhi ...	1 " " 60 feet long ...	6 " 5 "
Tikru ...	2 " " 25 and 20 feet long, respectively...	10 " 7 "
Junpan ...	6 wooden shoots 45, 40, 38, 35, 28 and 24 feet long, respectively ...	5 feet wide.
Phinla ...	1 slip 30 feet long ...	"
Wasankan ...	1 " 60 " " ...	"
Tenden ...	2 " 70 and 35 feet long, respectively ...	"
	Retaining Walls.	
Junpan ...	1,755 feet long 6 feet wide and 4 feet high.	
Kunhi ...	540 " " 4 " " " 4 " "	
Tikru ...	40 " " 5 " " " 3 " "	
West Nachár ...	50 " " 8 " " " 6 " "	

The following earth slides of an average breadth of 12 feet were also constructed:—

Junpan	2,700	feet long.
Phinla	2,000	"
Tenden	300	"
Tikru	500	"
Kunhi	2,150	"
West Nachár	600	"
TOTAL	8,250	"

At Kilba a wooden hut was built for the establishment, and a grain godown commenced.

An outhouse at Nachár was burnt by the road overseer.

98. *Jhelum Division.*—In this division the repairs of the Forest bungalows at Jhelum have been reported at a cost of Rs. 411.

The Forest rest-house at Choi Saidan Sháh had also to be thoroughly repaired, as all the joists were insect-eaten and threatened a collapse. The cost of the work was Rs. 198.

The office buildings at the same place were too far gone, and had to be reconstructed at a cost of Rs. 187.

99. *Gujránwála Division.*—In Kikránwáli 1¾ miles of compartment roads were laid out and trenched on either side, at a cost of Rs. 31, thus dividing the reserve into five blocks. The old road was bridged and repaired.

The Wazirabad bungalow was thatched and repaired at a cost of Rs. 223, and Rs. 95 were spent on repairing the Bunni house.

A few guards' huts were built and repaired.

100. *Lahore Division.*—Roads and bridges in the Chánga Mánga plantation have been kept in fair repair, and in the *carob* block a circular road 4,158 feet long by 25 feet wide was made during the year.

A new room was added to the Chánga Mánga bungalow.

The masonry well commenced in 1880 was completed in October 1882, and fitted with a Persian-wheel.

Four double-roomed kutcha huts for Forest apprentices were built at Chánga Mánga, in the corner of compartment 56.

Six new beldar huts were built, and the others have been kept in repair.

Minor repairs were carried out to the buildings in the Sharakpur and Lahore ranges.

101. *Mooltan Division.*—The building of a few guards' huts is the only work reported under Communications and Buildings; and in the Phillour Division nothing was done but the repair of the house at Palhan, at a cost of Rs. 415.

It will be seen from form No. 53 that the following sums have been disbursed in the Province under Communications and Buildings :—

Roads, bridges and slides ...	...	...	...	Rs.	5,488	2	0
Other works ...	...	...	...	„	150	7	6
Buildings ...	...	...	...	„	9,519	7	1
			TOTAL	Rs.	15,158	0	7

The foregoing paragaphs show that the money has been carefully and judiciously spent.

CHAPTER IV.—YIELD AND WORKING.

1. DEPARTMENTAL OPERATIONS.

102. Abstracts of forms Nos. 58, 59, 60, 61 and 62 show—

(*a*). Number of trees felled during the year by departmental agency.

(*b*). Outturn of timber and other produce cut and collected by Government agency.

(*c*). Timber received in sale depôts.

(*d*). Timber removed by purchasers from sale depôts.

(*d* 2). Timber removed from forests and sold locally.

(*e*). Timber account of the year.

A.—Trees felled during the year.

Divisions	Deodar	Pines	Other trees	Total
Hazára	...	...	635	635
Rawalpindi	...	57	1	58
Chamba	3,277	469	37	3,783
Beas	430	68	...	498
Bashahr	2,230	...	...	2,230
Total ...	5,937	594	673	7,204

B.—Abstract of outturn of Timber and other produce cut and collected by Government Agency during the year.

Divisions	Deodar logs	Pine logs	Sleepers	Other pieces	Scantlings	Miscellaneous	Total
Hazára ...	6,235	...	...	...	38,612	...	44,847
Rawalpindi ...	...	...	...	...	3,222	...	3,222
Chamba ...	17,294	...	1,814	...	12,429	207	31,744
Beas ...	2,289	113	6,311	3,009	6,123	2	17,847
Bashahr ...	11,116	...	...	...	...	...	11,116
Phillour ...	...	...	...	1,894	...	...	1,894
Total ...	36,936	113	8,125	4,903	60,386	209	110,670

Add.—Hazára Division—Shingles ... ... 508,890 pieces.
Rawalpindi „ Charcoal ... ... 14,675 maunds.
„ „ Grass ... ... 44 „
„ „ Brushwood ... ... 2,683 „
„ „ Bamboos ... ... 14,878 pieces.
Beas „ „ ... ... 757,585 „
Lahore „ Firewood ... ... 528,426 cubic feet.
Phillour „ „ ... ... 420,000 „

C.—Timber received in Sale Depôts from the Forests.

Divisions	Deodar logs	Pine logs	Miscellaneous logs	Sleepers	Other pieces	Scantlings	Total	
							Number	Cubic feet
Rawalpindi ...	...	...	...	...	...	1,844	1,844	...
Chamba ...	1,620	1,228	...	22,950	4,351	12,429	42,578	160,173
Beas ...	356	186	1	6,201	1,302	4,500	12,546	53,168
Jhelum ...	15,374	21,900	...	...	14,342	2,574	54,190	677,939
Gujránwála ...	2,000	57	...	3,573	443	...	6,073	53,457
Phillour ...	7,648	514	...	...	2,491	115	10,768	167,434
Total ...	26,998	23,885	1	32,724	22,929	21,462	127,991	1,112,171

Add.—Rawalpindi Division—Firewood ... ... 27,078 maunds.
„ „ Charcoal ... ... 3,349 „
„ „ Grass ... ... 44 „
„ „ Bamboos ... ... 14,857 pieces.
Beas „ „ ... ... 757,585 „
Jhelum „ Firewood ... ... 14,500 cubic feet.
Lahore „ „ ... ... 480,877 „
Phillour „ Bamboos ... ... 4,115 pieces.

D. 1.—Timber removed by purchasers from Depôts.

Divisions	Deodar logs	Pine logs	Miscellaneous logs	Sleepers	Other pieces	Scantlings	Total Number	Total Cubic feet
Rawalpindi ...	...	...	...	...	12	3,936	3,948	...
Chamba ...	79	1,228	...	20,279	3,004	12,389	36,979	129,364
Beas ...	613	332	1	108	408	4,092	5,554	37,924
Jhelum ...	5,401	15,369	...	...	11,869	313	32,952	411,638
Gujránwála ...	1,205	63	...	3,794	414	...	5,476	34,166
Phillour ...	7,987	513	...	951	2,259	115	11,825	169,061
Total ...	15,285	17,505	1	25,132	17,966	20,845	96,734	782,153

Add.—Rawalpindi Division—Firewood ... ... 49 562 maunds.
" " Charcoal ... ... 13,987 "
" " Grass ... ... 44 "
" " Bamboos ... ... 13,244 pieces.
Beas " " ... ... 757,653 "
Jhelum " Firewood ... ... 14,500 cubic feet.
Lahore " " ... ... 373,118 "
Phillour " Bamboos ... ... 2,882 pieces.

D. 2.—Timber removed and sold locally.

Divisions	Deodar logs	Pine logs	Other pieces	Scantlings	Total Number	Total Cubic feet
Hazára ...	...	...	...	38 302	38,302	55,139
Rawalpindi ...	...	...	...	3,669	3,669	...
Chamba ...	61	59	529	1,069	1 718	29,022
Beas ...	24	3	701	391	1,119	2,541
Gujránwála ...	4	...	...	...	4	48
Phillour ...	17	...	...	1,142	1,159	594
Total ...	106	62	1,230	44,573	45,971	87,344

Add.—Hazára Division—Shingles ... ... 490,115 pieces.
Rawalpindi " Firewood ... ... 14,860 maunds.
" " Brushwood ... ... 2,683 "
" " Charcoal ... ... 4 "
" " Bamboos ... ... 21 pieces.
Gujránwála " Firewood ... ... 532 cubic feet.
Lahore " " ... ... 61,249 "
Phillour " " ... ... 418,000 "

E.—Timber Account of the year.

Balance at commencement of the year ...	24,986	110,034	Removed by purchasers ...	96,734	782,153
			Sold locally ...	45,971	87,344
Received from the forests in depôts during the year ...	127,999	1,112,171	Used by the Department ...	746	1,393
Received from the forests and sold locally during the year	45,971	87,344	Transferred to other classes	1	3
			Returned to owners ...	11,961	103,227
Received from the forests locally and used by the Department ...	310	440	Lost by measurement ...	4	92
			Paid in kind for delivery ...	13	20
Received by transfers from other classes ...	1	3	Balance at close of the year	43,837	335,760

Work in the upper rivers.

103. A comparison of the trees felled during the present and previous year

1881-82 ... ... 5,840 trees
1882-83 ... ... 7,204 "

shows an increase of 1,364 trees.

In deodar trees the increase amounts to 1,384, pines show a decrease of 512, and other trees an increase of 492.

104. No felling of deodar trees took place in the Hazára Division, but 635 trees of various kinds were felled in the Dungagali range for the supply of scantlings to the Public Works Department.

During the year under review 2,566 logs were launched in the Kághan range, and 242 logs from Sukka Kaisi. It is expected that this year's floods will clear the river of all old serviceable logs. At the beginning of 1882-83, 4,990 stranded logs were re-launched, and, at the end, all stranded logs between Malkandi and Salig Rám were counted, amounting to 1,000 good logs and 560 waif.

105. In the *Rawalpindi Division* 58 *Pinus longifolia* trees were felled for scantling, but no new fire wood fellings were undertaken.

106 In the *Chamba Division* 3,277 deodar trees were felled, but, beyond the trees felled in Kálatop and Kaintli, they consisted almost entirely of dead trees; the balance of dying ones. Last year only 1,330 trees were felled, and therefore 1,270 had to be felled in excess, to make up the average of 2,000 trees per annum.

The increase in the felling of pine trees is due to the Department undertaking the conversion, instead of selling the timber standing, as was done in previous years.

The felling of deodar trees in Chamba was very scattered, consequent to our felling of dead and dying trees only.

The result of this is that all the streams in the Bhandal, Suel and most of those in the Ravi valley are filled with logs.

During the year the work in the forest was as follows:—

Trees	Number of logs sawn	Number of logs launched	Balance in forest
Deodar	17,294	15,603	2,343
Walnut	92	92	...
Ash	41	41	...
Elm	57	57	...
Hill tún	17	17	
Total ..	17,501	15,810	2,343

But few dead deodar trees are now left in the deodar forests on the Ravi and its tributaries.

108. *Beas Division.*—The 430 trees felled in the Kulu range, in the Phulga, Bindraban and Rájgiri forests, were converted into 2,065 logs, 2,761 broad-gauge sleepers, and 2,278 other scantlings of sizes.

The deodar timber launched consisted of 1,667 logs, 3,761 broad-gauge sleepers, and 2,791 other scantling.

The 68 chíl trees felled in the Dera range were converted into 880 pieces of scantling.

109. *Bashahr Division.*—The fellings comprised 1,427 green deodar trees, 789 dry trees, and 14 windfall.

316 unlogged trees were on hand from previous year.

During the year 2,301 trees were converted into 11,110 logs, leaving a balance of 245 unlogged trees at the end of 1882-83.

During the year 9,248 deodar logs were launched, and 6,027 deodar and 252 blue pine logs remained in the forest

The average cubic contents of logs launched amounts to 24·62 against 23·71 in 1881-82 and 12·67 in 1880-81, showing a steady and very valuable increase in the size of the logs.

There were four high floods, and only 2,526 logs remained stranded at the end of the year.

Property marks were put on 1,600 pieces of waif, and the clearing party landed 1,500 logs and 600 pieces at Naila depôt, 251 logs and 700 pieces at Suni.

Foreign timber, for which launching passes were granted, amounted to 25,000 deodar sleepers and 3,000 of blue pine.

Receipts in Depôts.

110. The increase of timber brought to depôt is 614,700 cubic feet, comprising 11,569 deodar logs, 17,677 pine logs, 15,690 sleepers, 17,529 other pieces, and a small quantity of other scantling.

This large increase in the outturn is due to the exceptionally violent floods in the *Jhelum*, where the collection of timber amounted to 601,014 cubic feet in excess of the previous year's collections.

This, however, includes not only all traders' timber, which was this year collected by Government and made over to the owners at cost price, but also all unmarked drift timber, which in former years was collected by the Kashmir State.

Timber bearing the Government marks amounts to 112,447 cubic feet, unmarked waif to 463,144, and timber bearing traders' marks to 116,848 cubic feet.

The figures look extremely grand on paper, but the violent floods scoured the river of the leavings of former years; logs it was not thought worth while to relaunch, &c., and most of the Government and waif timber are of the very poorest class imaginable, and some of the lots are hardly saleable. The average price realized per cubic foot only amounts to

Deodar	...	...	4 annas
Pines	...	...	1 do. 3 pie

111. *Gujránwála Division.*—In the Chenab river range, which collects the Chamba Division Pangi range timber, the receipts of the year are as follows :—

Marked 2,000 deodar logs	...	...	...	39,534	cubic feet
Unmarked 271 „ „	...	...	..	4,001	„

2,573 marked sleepers, 269 pine logs, and 978 scrap pieces.

Altogether 53,487 cubic feet of marked and 14,492 cubic feet of unmarked timber were received, showing a decrease of 22,058 cubic feet.

The deodar logs received were originally launched in the following years :

1862	1863	1864	1865	1869	1870	1871	1874	1875	1876	1877	1878	1879	1880	1881	Without year	W X XI W	Total
3	1	1	1	3	3	1	3	4	8	88	40	55	33	1,452	432	79	2,000

112. *Chamba Division*, Ravi river range—

In the Shahdara depôt 923 deodar logs and 1,062 pine logs less were received than in the previous year, but 10,522 sleepers in excess.

Table B contains also 1,130 sleepers and 12,429 pieces of scantling, containing 18,307 cubic feet, brought to the Kálatop depôt.

The timber brought to both depôts during the year was 18,900 in excess of the previous year.

113. *Beas Division.*—In the Beas sale depôt 412 deodar logs and 285 pine logs less were received during the year, but, as some 3,000 broad-gauge sleepers were collected in excess of last year, the falling off in cubic feet amounted to 2,000 only.

114. In the *Phillour Division*, which collects the Bashahr timber, 1,264 deodar logs were collected in excess of last year, but 1,549 pine logs less; nevertheless the table shows 37,490 cubic feet more collected than last year.

The reports in the Beas and Phillour Divisions as regards timber in transit are too meagre.

Sales at Depôt.

115. 248,856 cubic feet of timber have been sold in the depôts in excess of the previous year.

The figures show an increase in the sales at Jhelum of over 300,000 cubic feet, but, as already stated, the timber was bad and the prices consequently low.

All other divisions show a decrease in sales at depôts.

The following average prices per cubic foot were realized :—

Description of Timber	Hazára Division	Rawalpindi Division	Chamba Division	Beas Division	Jhelum Division	Gujránwála Division	Phillour Division	Remarks
	Rs. A. P	Rs A. P.	Rs A P.	Rs. A. P.	Rs. A. P	Rs. A. P.	Rs. A. P.	
Deodar logs ...	...	...	1 2 1	0 9 6	0 4 0	0 9 6	0 8 9	*a.* Per piece.
								b " "
Pine " ...	...	...	0 3 8	0 4 9	0 1 3	0 5 0	0 4 6	*c.* " "
								d. " "
								e. " "
Sleepers ...	...	...	*a* 2 12 0	1 0 4	*d* 0 10 6	*f* 0 10 6	*g* 0 13 10	*f.* Or 2-9 & 2 per piece.
Scantlings ...	0 8 0	0 7 0	...	0 12 2	*e* 0 4 8	0 6 3	*h* 1 4 0	*g.* Per piece.
								h. " "
Waste Wood ...	...	...	*b* 0 11 5	*c* 0 8 0	0 0 7	0 2 6	*i* 1 3 6	*i* " "
								In the Jhelum Division nearly the entire stock of I class deodar timber remained unsold.

The prices realized at Kálatop were as follows :—

Deodar Scantlings	1	2	2	per cubic feet.	
* Tos "	0	8	0	"	"
Chil "	0	10	9	"	"
Rei "	0	6	0	"	"

Local Exploitation and Sales.

116. In the *Hazára Division* over 300,000 of shingles less were prepared than during the previous year, and only 490,000 were sold against 840,000 during 1881-82.

117. In the *Rawalpindi Division* no fresh cutting of firewood took place, and only about 28,000 maunds were brought into depôt, against 42,000 during the previous year. The sales amount to Rs. 64,420, of which Rs. 14,860 were sold in the forest. In 1881-82 only 15,000 maunds were sold in Rawalpindi and 11,000 in the forest. The increase in sales is due to a reduction in the sale rate. The Department is at present driven out of the Rawalpindi firewood market by private enterprise.

The sale of charcoal in Rawalpindi was also 2,585 maunds less than during the previous year, owing to the large imports by rail; in Murree charcoal manufacture and sale is almost a departmental monopoly, and the sales have again increased by 2,000 maunds.

118. The outturn of scantling of the Kálatop, Kaintli and Bakloh reserves in the *Chamba Division* has doubled, and the increase has risen from 5,129 to 15,235. The demand was brisk no doubt, but so it was in previous years, and I cannot but ascribe the present success, to a great extent, to improvement in the arrangements for sawing, carriage and supply.

119. The bamboo trade in the *Beas Division* has increased: 534,695 bamboos have been cut in excess of last year, and, though there was a considerable quantity in stock in the beginning of 1881-82, the sales of 1882-83 exceed those of the previous year by 207,000.

120. In the *Jhelum Division*, 14,500 cubic feet of firewood, the outturn from the fellings in Bela Pira Ghaib, were sold for Rs. 4,075.

121. *Lahore Division.*—Departmental operations consisted of the following clear cuttings :—

Chánga Mánga compartments 5—56 =	13½ acres =	17,362	cubic feet
Jugian Plantation	126 „ =	207,025	„
Total	139½ „ =	224,387	„

or 1,608 cubic feet per acre.

Thinnings in Chánga Mánga amounted to 186,050 cubic feet, and in other reserves 69,086 cubic feet. 434,367 cubic feet of wood were sold during the year, leaving a stacked and unsold balance of 194,825 cubic feet.

The selling rates have somewhat risen, averaging about Rs. 4 per 100 cubic feet.

The rates of felling, cutting into 5 feet billets, and stacking, amounts to 10 to 12 annas per 100 cubic feet at Chánga Mánga and to 12 to 14 annas per 100 cubic feet in the other reserves.

Taking 1,600 cubic feet as the average cubical contents of Chánga Mánga plantation, 10 annas per 100 cubic feet as cost of cutting and stacking, Rs. 4 the average price for stacked timber at Chánga Mánga, the net value per acre amounts at present to Rs. 54.

The cost of stubbing is out of proportion to the increase in materials, which amounts only to one-ninth of the outturn.

Experiments made during February and March 1883 at Jugian, a sailába plantation twelve years old, show—

(*a*). Ratio of wood above ground 10.77 : 1

(*b*). Ratio of wood above 2″ diameter 18.11 : 1

(*c*). Ratio of wood from stem to wood from branches 3 3 : 1

122. In the *Mooltan Division* some 14,000 cubic feet were cut by the end of the year, but not finally stacked.

123. The Divisional Officer, *Phillour*, reports the felling and collection of 420,000 cubic feet of firewood at a cost of Rs. 1,600, and the sale of 416,000 cubic feet.

2. Removal of produce by purchasers.

124. The following is an abstract of the total of all forest produce removed by purchasers :—

Material removed from the forests by purchasers.

Description of Produce		1881-82	1882-83	More	Less
Deodar trees	No.	277	428	151	...
Other „	„	9,809	15,370	5,561	...
Poles and dry logs	„	5,103	3,991	...	1,112
Firewood Cubic feet	stacked	1,070,220	2,603,059	1,532,839	...
„	Mds.	104,711	185,705	80,994	...
„	Pieces	...	1,610	1,610	...
„	Loads	...	7,991	7,991	...
Charcoal	Mds.	7,318	6,406	...	912
Bamboos	No.	26,148	11,180	...	14,968
Coal	Tons	4,292	354	...	3,938
Stone	Cubic feet	...	95,814	95,814	...
Grass	Mds.	...	92,596	92,596	...
„	Loads	...	1,542	1,542	...

125. In the Kulu valley, *Beas Division*, 426 deodar trees were sold locally.

Considering that these were mostly sold at zamíndár rates of Re. 1 per tree, whereas the actual net value may be put down at 4 annas a cubic foot, the loss to Government is considerable.

126. In Chánga Mánga the wood growing on 947 acres was sold to Mr. Robson at Rs. 52 per acre.

Mr. Robson commenced cutting early in September, and completed his work on the 30th of April 1883. He imported a small portable tramway to convey the wood to the railway station. The produce is estimated at about 1,100,000.

The produce of 100 acres of the Nág plantation baring tún and *eucalypti* was sold standing to Contractor Rái Mela Rám at Rs. 3-4 per 100 cubic feet; of these, 25 acres were felled, giving an average of 1,500 cubic feet, or some 37,500 cubic feet.

127. In the *Phillour Division* 17 acres of the Ludhiána plantation and 128 acres of the Phillour plantation were sold to the Sind, Punjab and Delhi Railway at Rs. 90 per acre. The amount of wood actually felled is estimated, but I do not accept the estimate as correct.

128. In the *Mooltan Division* about 1,172,000 cubic feet of stacked firewood were sold, and a small quantity by camel-loads and cart-loads. Most of the firewood was sold to Contractor Mela Rám, who, as contractor to the Railway, can carry his wood at a reduced price.

The total increase in the sale of firewood may be put down at 1,550,000 cubic feet.

129. 3. *Free grants of forest produce.*

Division	Deodar	Pine	Other trees	Total	Remarks
Rawalpindi	...	979	19,600	20,579	Also 11,736 head-loads.
Chamba	164	368	82	614	84 deodar to Chamba State. 80 „ villages. 275 pines to the State.
Beas	1,213	33,630	695	35,538	258 deodar, 630 pines and 25 other trees given to Civil Department.
Bashahr	290	2,920	482	3,692	208 deodar trees, 82 poles; 321 pine trees, 2,599 poles.
Total ...	1,667	37,897	20,859	60,423	

130. The number of trees given away in free grants has increased from 37,478 in the previous year to 60,423 in the year under review; the amount granted in the Beas Division being 10,000 in excess of those granted in all the other divisions collectively, and nearly ten times the amount granted in Bashahr.

Of the trees granted in the *Beas Division* 28,441 were granted in the Kulu valley, and of the 1,213 deodar trees 258 were granted to the Civil Department for bridge building, and 950 from assessed land.

The total number of deodar trees either granted or sold at zamíndár rates in the Kulu valley amounted to 1,629, which is a heavy strain on the deodar resources of that country, and, considering that the net value per cubic foot of deodar in the valley (calculated on depôt prices, less cost of extraction and transport), is at least four annas a cubic foot, a heavy financial loss.

Free grants in *Rawalpindi Division* have also nearly doubled since 1881-82.

131. 4. *Summary of produce removed from the forests.*

Description of produce		1881-82	1882-83	More	Less
Trees and poles cut	No.	58,507	80,212	21,705	...
Firewood	Cubic feet stacked	2,169,692	3,578,217	1,408,525	...
"	Maunds	...	231,226	231,226	...
"	Pieces	...	1,610	1,610	...
"	Loads	...	7,991	7,991	...
Charcoal	Maunds	18,872	9,759	...	9,113
Bamboos	No.	596,377	787,759	191,382	...
Coal	Tons	4,292	354	...	3,938
Stone	Cubic feet	...	95,814	95,814	...
Grass	Maunds	...	92,640	92,640	...
"	Loads	...	1,542	1,542	...

132. 5. *Imports and exports of forest produce.*

River by which the timber was imported	Territory from which the timber came	Deodar logs	Pine logs	Sleepers	Scantlings	Bamboos, scraps, &c.
Ravi ...	Kashmir ...	5,327	796	1,762	15,810	1,030
Beas ...	Mandi and Kapurthala ..	...	...	57,767	1,506	2,203
Sutlej ...	Native States	...	...	84,294	133	31,037
Jhelum ...	Kashmir ...	12,663	162	4,317	160,474	10,866
Chenab ...	Kashmir ...	10,557	841	125,473	...	30,381
	TOTAL ...	28,547	1,799	273,883	177,923	75,517

The figures given compare as follows with those of 1881-82 :—

Description of Timber	1881-82	1882-83	More	Less
Deodar logs	20,434	28,547	8,113	...
Pine logs	2,955	1,799	...	1,156
Sleepers	307,929	273,883	...	34,046

133. In comparing the above figures with those of timber removed from Government forests, the following results are obtained :—

	Deodar logs	Pine logs	Sleepers
Timber removed by Government agency from forests under British control ...	26,998	23,885	32,784
		1,799	273,883
Timber imported from foreign territory ...	28,547		
Total in 1882-83	55,545	25,684	306,667
Total in 1881-82	35,863	9,163	324,961
Increase	19,682	16,521	...
Decrease	...	...	18,294

The profit derived from the importation of pine logs being comparatively small, the number imported has decreased.

Financial Results.

134. Full details of the financial results will be found in statements 53 to 57 appended to the Report.

135. The financial results compare favorably with those of preceding years, and exhibit a larger surplus than that for 1881-82.

Year	Receipts	Charges	Surplus
	Rs.	Rs	Rs.
1881 82 ...	6,88,308	5,16,270	1,72,038
1882-83 ...	7,66,709	5,60,750	2,05,959

The gross revenue is higher by Rs. 78,401, while the expenditure is enhanced by Rs. 44,480. This was partly due to the unusually large quantities of drift timber brought down the Jhelum river during the sudden and violent floods already noticed in this Report, which necessitated an additional outlay of Rs. 33,000 ; while a sum of Rs. 11,740 is shown in the Beas Division under A VIII*a*, on account of the pay and travelling allowance of the Forest Settlement officer in Kulu ; the surplus exceeds that of 1881-82 by Rs. 33,921.

The value of the year's transactions was—

	Rs.
Cash surplus	2,05,959
Difference of stock at sale depôts in favour of the year	8,185
Value of year's transactions	2,14,144

Comparing this with the results of the two previous years—

	Rs.
1880-81	1,96,142
1881-82	1,67,804
1882-83	2,14,144

there is an increase over 1881-82 of Rs. 46,340, and of Rs. 18,002 over 1880-81.

This is partly due to the sale of standing fuel over a large area of the Chánga Mánga plantation, and partly to sales of drift timber in the Jhelum Division.

136. The following table exhibits the receipts and charges when re-distributed for purposes of interdivisional comparison :—

Division	Receipts	Charges	Surplus	Deficit
	Rs.	Rs.	Rs.	Rs.
Hill Divisions				
Hazára	64,248	56,352	7,896	...
Rawalpindi	70,537	36,623	33,914	...
Chamba	1,08,882	1,06,652	2,170	...
Beas	58,250	73,044	...	14,794
Bashahr	1,02,086	57,207	44,879	...
Plains Divisions				
Jhelum	67,806	59,723	8,082	...
Gujránwála	84,781	31,761	53,020	...
Lahore	1,14,758	53,383	61,375	...
Mooltan	76,105	22,068	54,037	...
Phillour	19,258	19,883	...	625
Direction	58	44,054	...	43,995
Total ...	7,66,709	5,60,750	2,05,959	...

137. The Chamba Division shows this year a small surplus, which, it is hoped, will considerably increase during the next year, but especially during 1884-85, as soon as longer timber comes into the market and the cost of rafting is reduced considerably.

The rates paid in the forests are lower in the Chamba Division than in any other hill division, but the rafting rates seem, even taking the difficulties of the river into consideration, very high.

The question of contract rates has already been referred to in Chapter I.

The surplus in the Hazára Division is somewhat reduced by the cost of the demarcation of the village forests, which is borne by this Department.

The Bashahr Division has again shown an increased surplus, which is very creditable, considering the formerly almost chronic deficit in this division, and due, in my opinion, to the efforts which have been made to extract timber of larger dimensions and in better condition.

The three large plains divisions, Lahore, Mooltan and Gujránwála, have shown a very satisfactory surplus; and in Phillour it has been found possible somewhat to reduce the deficit.

138.

	Receipts		Charges		Surplus	Deficit
		Rs.		Rs.	Rs.	Rs.
I. Departmental timber operations ...	I and III	3,92,530	I, III, V, ½ VI & ⅓ B	2,85,123	1,07,407	...
II. Other revenue ...	II, IV & V	3,74,179	II, IV, ¼ VI, IX and ⅓ B	1,14,030	2,60,140	...
III. Formation, protection and improvement of forests	...	...	¼ VI, VII, VIII and ⅓ B	1,61,588	...	1,61,588*
TOTAL ...	...	7,66,709	...	5,60,750	2,05,959	...

The figures compare with the previous year as follows :—

	1881-82		1882-83	
	Surplus	Deficit	Surplus	Deficit
	Rs.	Rs.	Rs.	Rs.
I. Departmental timber operations...	1,07,915	...	1,07,407	...
II. Other revenue ...	2,08,627	...	2,60,140	...
III. Protection, &c. ...	...	1,44,504	...	1,61,588
TOTAL ...	1,72,038	...	2,05,959	...

OUTSTANDINGS AND LIABILITIES OF THE DEPARTMENT.

139. The outstandings due by contractors and disbursers amounted to Rs. 21,389 at the commencement of the year, and to Rs. 20,815 at the close of

the year. This total includes Rs. 3,400 due in the Chamba Division, which, if recoverable at all, can only be obtained by a civil suit, the institution of which has since been sanctioned.

Outstandings on account of Revenue.

These at the commencement of the year were Rs. 20,556 as against Rs. 19,292 at the close of the year. This includes outstandings on account of grazing dues which amounts to Rs. 15,731.

BERTH RIBBENTROP,

Conservator of Forests, Punjab.

APPENDIX A.

List of Ranges, showing Officers in charge.

1.—Hazara Division

Kaghan and Siran Ranges including river to Saligraon—Forester

Dunga Gully Range—Forest Ranger.

Khanpur Range—Forester.

2.—Rawalpindi Division.

Murree Range—Forester.

Rawalpindi Range—Forester.

Rahuta Range—Forester.

Attock Range—Forester.

Fatteh Jang Range—Forester.

3.—Chamba Division.

Pangi Range—Forest Ranger.

Upper Ravi Range—Assistant Conservator

Kalatope Range—Forester.

Lower Ravi Range—Forest Ranger.

River Range—Sub-Assistant Conservator.

4.—Beas Division.

Kulu Range—Assistant Conservator

Nurpur Range—Forest Ranger.

Dera Range—Forest Ranger.

River Range—Probationer.

5.—Bushahr Division.

Northern Bushahr Range—Forester.

Southern Bushahr Range—Forester.

Western Bushahr Range—Forester.

Kanawar Range—Forester.

A River Range—Forest Ranger.

6.—Jhelum Division

River Range—Sub Assistant Conservator.

Khusab Range—Forest Ranger.

C Chaknizam Range—Forest Ranger

Pinda Dun Khan Range—Forest Ranger.

B Jhelum Range—Forest Ranger.

7.—Gujranwala Division.

River Range—Probationer.

Phalian Range—Forest Ranger.

Bhera Range—Forest Ranger

Kharian Range—Forester.

Gujránwála Range—Forester

8.—Lahore Division.

Changa Manga Range—Forest Ranger.

Sharkpur Range—Forest Ranger.

Lahore Range—Forester

Detached Circle—Forester.

9.—Mooltan Division.

Montgomery Range—Forest Ranger.

Mooltan Range—Forester.

Muzuffargarh Range—Forester.

Dera Ghazi Khan Range—Forester.

10.—Phillour Division.

River Range—Forest Ranger.

Kalesar Range—Forester.

Subathu Range—Forester.

Men trained at the Forest School.

Name	Date of appointment to Department	Date of appointment to Grade	Division to which attached
B Fazaldin	1st November 1878 ...	1st June 1882 ...	Jhelum
A Moti Singh	1st January 1882 ...	1st December 1882 ...	Bushahr
C Daulat Ram	1st July 1881 ...	1st December 1882 ...	Jhelum

APPENDIX B.

Bashahr Division.

Statement showing the progress of demarcation up to 31st March 1883.

No.	Name of Range	Area demarcated			Area remaining to be demarcated	Total forest area in square Miles	REMARKS
		Up to 31st March 1882	During 1882-83	Total area demarcated			
I	Nagli	...	½	½	22½	23	
II	Tranda	7½	1½	9	10	19	
III	Kilba	...	10	10	5	15	
IV	Kailas	...	9½	9½	8½	18	
V	Chini	...	...	...	21	21	
VI	Pandrabis	...	...	...	39	39	
	TOTAL	7½	21½	29	106	135	

APPENDIX B.—*continued.*

Gujranwala Division

Statement exhibiting progress of demarcation in Reserved, Protected and Unreserved Forests.

Civil Districts	Names of Reserves	Area in square miles	Demarcated: Up to 1st April 1882 — Length in miles	No. of pillars or trenches	Approximate cost	Demarcated: During 1882-83 — Length in miles	No. of trenches	Cost	Balance remaining undemarcated on 31st March 1883	Remarks
Gujrat	Mari ...	1	6	43	...	...	...	11	...	Repairs: Masonry pillars
	Dhul ...	1	5½	84	...	...	...		...	Do. do.
	Pubbi ...	39	60	205	...	...	...	...	...	Do. do.
	Bela Bhlolpur ...	...								
	" Kaulowal ...	...								
	" Syan ...	...								Mud pillars.
	" Kotli Gohan ...	...	...	188	...	...	...	...	...	The length of boundary may be given next year, when maps are ready.
	" Sadhoke ...	...								
	" Nath ...	1								
	" Pindi Tatar ...	1								
Gujranwala	" Thatta Fakirplla...	1	¾	trench	...	...	...	...	1¼	Trench.
	Kikranwali ...	1	3½	8	...	...	...	...	...	Do. in addition to 8 masonry pillars.
	Total Reserves under section 34 ...	45	75½	528	...	...	...	11	1¼	
Gujrat	Rassul ...	2	4½	26	27	...	...	...	1	Masonry pillars No. was not included last year.
	Chimma ...	4	9½	307½	123	...	...	...	...	Trenches
	Gohar ...	4	8	221	23	¼	12½	5	¼	Trenches, balance is between rakhs.
	Bukun ...	3	7½	236½	50	1¾	68	29	...	Trenches.
	Buchcha ...	1	1	28	...	...	...	...	...	
	Bhiki ...	5	14	...	17	...	...	...	...	Old system.
	Sohawa Kadim ...	6	9½	262½	123	...	...	...	*½	Part at angles only.
	Sohawa Jadid ...	2	5½	64½		...	88	32	...	* This was omitted in last year's statement.
	Wassu ...	2	3½	139	53	1¼	59½	22	...	
	Shahidanwali ...	1	3½	67	25	...	70	27	...	Completing corner demarcation.
	Minargarh ...	1	4½	92½	40	1½	147½	55	1	Do.
	Taraniwali ...	1	1½			¾	58½	22	...	Do. and new work.
	Tibbi Tarar ...	...	2½	106½	38	...	...	...	...	
	Total Gujrat Reserves under section 19 ...	32	75	*1,551	519	5½	504	192	2½	* This total only represents the number known, there are more.
Gujranwala	I—Jhinda Jhariána	2	4	...	...	...	...	...	...	
	II—Makki ...	7	9½	...	...	...	...	...	...	
	III—Hamoke ...	4	7½	...	...	...	...	...	...	
	IV—Kamawali ...	10	11½	...	...	...	...	...	...	
	V—Kamalwali ...	7	10½	...	...	...	...	...	...	
	VI—Lagar ...	7	9½	...	...	...	...	...	...	
	VII—Rutti Tibbi ...	12	5	...	...	...	...	...	3¾	
	VIII—Gujiana ...	11	8½	172	93	...	...	...	1	
	IX—Kingranwali ...	8	5½	...	...	...	...	...	¾	
	X—Daban ...	6	2½	...	...	...	...	...	4¼	
	XI—Bhikoluhari ...	7	7¾	...	...	...	...	...	...	
	XII—Bhagomalli ...	7	9	...	...	...	...	...	...	
	Total Gujránwála ...	88	90¾	172	93	...	...	...	10½	
	Grand Total ...	165	241⅜	2,251	612	5½	504	203	13⅞	This total No. of pillars and trenches only include those known.

APPENDIX B.—*continued.*

Name of Forest	Area in square miles	Demarcated: *Up to 1st April 1882* — Length in miles	No. of trenches	Cost, Rs.	*During 1882-83* — Length in miles	No. of trenches	Cost, Rs	Balance remaining undemarcated on 31st March 1883	Remarks
Gujránwála, Protected ...	140	42¾	...	...	...	...	...	36¾	10¾ miles of the balances identical with that of reserves Some demarcation exists, see last year's report.
Jhang, proposed protected	128	...	..	...	...	...	...	31	7 masonry pillars exist and define the whole length.
Chenab Belas ...	12	...	...	...	...	...	...	...	Total length of boundary not known· mud pillars exist, to be changed by opportunity Completed during the year 3,225 feet trench in Mohla =32·4·0.
Rakh Chichra ...	...	3	..	...	...	...	...	...	Continuous trench.
Bhera Rakhs.									
Bhallowal ...	1	7	204	51	...	...	...	...	
Bahowal ...	5	19	490	122	...	...	...	...	
Rakun ...	2	7½	205	51	...	...	...	...	
Busal ...	7	11¼	298	74	...	...	..	...	
Pakhowal ...	2	5½	147	37	...	...	...	...	
Musa ...	3	6	159	40	...	...	...	...	
Menah ..	7	6½	172	43	...	...	...	...	
Duffar ...	9	10	266	61	...	...	...	...	
Miani Gondal ...	9	7½	194	49	...	...	...	...	
Rattoo Kala ...	3	7	177	45	..	..	...	...	
Vairowal ...	2	3	89	...	...	...	.	...	
Mehlowal ...	1	8	208	52	..	...	...	...	
Pindi Rawan ...	3	8	195	49	...	...	...	...	
Abdal ...	1	8	99	25	...	...	...	...	The No. of trenches is 4 miles only.
Uppi ...	4	8	100	25	...	...	...	...	
Khan Mohamdwála ...	6	3¼	124½	102	...	...	...	3	66 feet × $\frac{3}{1}$ × 2 at 66 feet distance.
Deowal ...	10	9	352½	221	...	...	...	...	Do. do.
Chak Kazi ...	2	6¼	158	62	..	..	...	...	50 feet trenches at 150 feet apart.
Khoja Salah ...	1	4	98	32	...	...	...	...	Do. do.
Salum ..	6	13	346½	...	...	...	...	...	
Hajjun ...	4	11	49	..	...	...	...	...	There is some error in the No. of trenches here.
Bhikhi Khurd ...	4	10	395	210	...	...	...	...	66 feet × $\frac{3}{1}$ × 2.
Makko Dudu ...	3	5	129	...	...	...	...	...	
Chawa ...	122	...	...	...	...	...	...	15	
Lalyani ...		...	...	...	...	...	...	26	
Nabbi Shah ...		4	34½	48	...	...	...	5	
Mamhianwali ...		...	...	...	...	...	...	8	
Kot Moman ...		...	...	...	...	...	...	19	
Dhori ...		...	...	...	...	...	...	15	
Shullapur ...		...	...	...	...	...	...	6	
Matila ...		...	...	...	...	...	...	17	
Samornwali ...		...	...	...	..	...	...	4	
Baghtonwali ...		.	..	...	...	...	...	4	
Mangui ...		...	...	...	...	...	...	7	
Ishar ..		...	...	...	...	...	...	9	
Total Bhera Rakhs ..	223	184½	4,670	1,402	...	...	...	138	
Grand Total ...	503	230½	4,670	1,402	...	...	...	205¾	

Preliminary demarcation completed in 1882-83	Length in miles	No. of mud pillars	Cost	Balance remaining on 31-3-83	Remarks
Chawa					
Lalyani	28	745		...	...
Nabbi Shah	.	..		...	..
Mamhianwali	7	180		.	..
Kot Moman	18	479		...	...
Dhori	17	460		.	...
Shullapur	...	...	216		...
Matila	...	...		...	...
Samornwali	...	...		...	...
Baghtonwali	...	...		...	...
Mangui	..	..		...	...
Ishar	9	250		...	...
Total Bhera Rakhs	38	2,114	216	...	...

66′ × $\frac{3}{1}$ × 2 @ 66 feet distance.

APPENDIX B—*concluded.*

Lahore Division.

Statement exhibiting progress of demarcation in Reserved Forests.

Name of Reserve	Area in square miles	Demarcated: *Up to* 31-3-82 (Miles of boundary)	Demarcated: *During* 1882-83 (Miles of boundary)	Demarcated: *Total* (Miles of boundary)	Remarks
a. Chánga Mánga	28	37	...	37	*a.* Masonry pillars at important points, Pottery pillars and trenches at others.
b Shahdara	2	11	...	11	*b.* Masonry pillars at important points, Mud pillars and trenches between.
c Jhoke	4	14	...	14	*c* and *d.* Do. Do.
d Sadhanwali	1	9	...	9	
e Muzang		1	...	1	*e* Wire fencing
f. Sarai Amánat Khan	3	5	...	5	*f* and *g* Masonry pillars at important points and mud pillars and trenches between.
g. Bahouru		4	...	4	

BOUNDARIES.

Range	Masonry pillars: New	Masonry pillars: Repaired	Mud pillars: New	Mud pillars: Repaired	Trenching, feet	Remarks
Chánga Mánga	...	...	...	445	4,240	
Sharakpur	..	...	..	392	60,456	
Lahore	...	...	40	12	6,200	
Detached Circle .. .	81	...	148	...	...	
Total ..	81	...	188	848	70,896	

APPENDIX C.

FOREST DEPARTMENT, PUNJAB,

Statement of Reserved Forests, showing areas surveyed and not surveyed.

No.	Forest Division	Civil District	Name of reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand Total Acres	REMARKS
1	Hazára ...	Hazára ...	Gali Batrasi ...	1,252	1,252			All these reserves were surveyed by Mr. Reynolds in 1871-72 and are now being demarcated with boundary pillars
2	Kagan Range ...	Tahsil Mansahra...	Lachi Khan ...	1,197	1,197			
3	...	...	Makhior ...	2,170	2,170			
4	..	...	Mauna ...	1,225	1 225			
5	...	..	Malkandi ...	4,861	4,861			
6	...	...	Chitta Par ...	2,146	2,146			
7	...	..	Nuri Bichla ...	8,776	8,776			
8	...	...	Manur ...	1,500	1,500			
9	...	...	Dewan Bela ...	862	862			
10	...	..	Khar Khau ...	4,019	4,019			
11	...	...	Chitta Khota ...	432	432			
12	...	...	Batal ...	895	895			
13	...	...	Narang ...	1,715	1,715			
14	...	..	Bhimbal ...	166	166			
15	...	..	Andera Bela ...	958	958			
16	...	..	Kinari ...	718	718			
17	...	...	Shor Than ...	903	903			
18	...	...	Kamal Ban ..	4,938	4,938			
19	...	...	Manshi ...	5,346	5,346			
20	...	...	Naka Sikian ...	4,232	4,232			
21	...	...	Massar ...	7,892	7,892			
22	...	...	Kashian ...	1,284	1,284			
			Total Kagan Range ...	57,487	57,487	...	57,487	
1	Siran Range ..	Tahsil Mansahra	Daddur ...	801	801			Surveyed by Mr. Reynolds in 1872.
2	...	...	Pinjal	7 218	7,218			
3	...	...	Una ...	5,083	5 083			
4	...	...	Paryai ...	1,387	1,387			
5	...	..	Baz Khan	1,053	1,053			
6	...	..	Tanglai ..	5,444	5,444			
			Total Siran Range ...	20,986	20,986	...	20,986	
1	Hazára ...	Hazára ..	Bhattian ...	95	95			Surveyed by Mr. Reynolds in 1872.
2	Dangagali Range	Tahsils Haripur and Mansahra	Sir ...	1,698	1,698			
3	.		Surjal ...	179	179			
4	...	...	Palak ...	319	319			
5	.	...	Langal ..	61	61			
6	...	...	Darwaza	2,021	2,021			
7	...	...	Tajiwal ...	1,651	1,651			
8	..	...	Riyala ..	111	111			
9	...	...	Kau ..	2,416	2,416			
10	...	...	Birot ...	904	904			
11	...	.	Bagan ...	5,504	5,504			
12	..	...	Pir Kot ...	136	136			
13	...	...	Tup ab ...	63	63			
14	...	...	Nagú Táli ...	171	171			
15	...	...	Makol Tarli .	296	296			
16	...	...	Makol Otla ...	19	19			
17	...	...	Akhunta ...	205	205			
18	...	...	Tatrila ..	3	3			
19		...	Naqri Otli ...	1,166	1,166			
20	...	...	Bagh ...	886	886			
21	...	...	Bandi Maira ...	124	124			
22	...	...	Baquotar ...	461	461			
23	...	...	Namli Maira ...	907	907			
24	...	...	Bakot ..	2,771	2,771			
25	...	...	Jhut Mung ...	75	75			
26	...	...	Phal Kot ...	2 832	2,832			
27	...	...	Maliya ...	626	626			
28	...	...	Sangal ..	631	631			
29	...	...	Mammul ...	1,347	1,347			
30	...	...	Majuhan ...	896	896			
31	..	...	Sattan Bora ...	546	546			
32	...	...	Bandi Sarai ...	216	216			
33	...	...	Siyal Kot ...	424	424			
34	...	...	Birán Gali ...	1,589	1,589			
35	...	...	Andri Sori ...	1,088	1,088			
36	...	...	Jhaffar ...	384	384			
37	...	...	Chhitri ...	1,072	1,072			
38	...	...	Chamyali ...	138	138			
39	...	...	Khokhariyala ...	197	197			
40	...	...	Banota ...	222	222			
			Carried over ...	34,450	34,450	...	78,478	

APPENDIX C—*continued*

No.	Forest Division	Civil District	Name of reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand total Acres	REMARKS
			Brought forward ...	34,450	34,450	...	78,473	
41	Hazára ...	...	Larhi ...	614	614			Surveyed by Mr Reynolds in 1872.
42	...	...	Maira Kathwal ...	1,131	1,131			
43	...	...	Bahlobya ...	102	102			
44	...	...	Kakúl ...	414	414			
45	...	...	Banda Sirkhan ...	320	320			
46	...	...	Tarawai ...	2,652	2,652			
47	...	...	Samli Dohri ...	1,278	1,278			
48	...	...	Bundi Pahar ...	152	152			
			Total Dungagalli Range	41,113	41,113	...	41,113	
1	Hazára ...	Hazára ...	Serh ...	2,646	2,646			
2	Khánpur Range...	...	Jawalian ...	1,376	1,376			
3	...	...	Garm Thun ...	2,675	2,675			
4	...	...	Chhoi ...	283	283			
5	...	...	Kamalpur ...	222	222			
6	...	...	Karwali ...	999	999			
7	...	...	Khin Kaunnar ...	3,404	3,404			
8	...	...	Kharrala ...	732	732			
9	...	...	Dartian ...	515	515			
10	...	...	Kahala Lassan ...	6,493	6,493			
11	...	...	Bakan ...	91	91			
12	...	...	Bahatri ..	596	596			
13	...	...	Narota ...	1,010	1,010			
14	...	...	Kotla ...	1,629	1,629			
15	...	...	Nilan Bhota ...	2 950	2,950			
16	...	...	Ferozepur ...	365	365			
17	...	...	Sangrairi ...	520	520			
18	...	...	Kandi ...	169	169			
19	...	...	Bhuchar ...	258	258			
20	...	...	Pina ...	179	179			
21	...	...	Nala ...	254	254			
22	...	...	Kuhmal ...	185	185			
23	...	...	Dotara ...	270	270			
24	...	...	Kahi ...	190	190			
25	...	...	Khui ...	231	231			
26	...	...	Satura ...	1,786	1,786			
27	...	...	Tripan ...	392	392			
28	...	...	Chenali ...	391	391			
29	...	...	Mari ...	682	682			
30	...	...	Samundar ...	293	293			
			Total Khanpur Range ...	31,786	31,786	...	31,786	
1	Rawalpindi ...	Rawalpindi ...	Margalla ...	24,362	...	24,362		
2	—	...	Banigalla ...	732	...	732		
3	...	...	Thaman ...	4,715	...	4,715		
4	...	...	Maira ...	1 408	...	1,408		
5	...	Attock ...	Kheremár ...	3,743	...	3,743		
6	...	...	Kawagar ...	4,396	...	4,396		
7	...	Fattahjang ...	Khairimurat ...	18,461	...	18,461		
8	...	...	Kaulial ...	1,171	...	1,171		
9	...	Kahuta ...	Bágham ...	7,983	...	7,983		
			Total Rawalpindi Range	66,971	...	66,971	66,971	
1	Chamba Pangi Range ...	...	Luj ...	1,500	...	1,500		Not surveyed.
2		...	Kánún ...	200	...	200		
3	...	...	Urn ...	500	...	500		
4	...	...	Chátwani ...	1,000	...	1,000		
5	...	...	Sidka Dera ...	1,000	...	1,000		
6	...	...	Kanji ...	1,500	...	1,500		
7	...	...	Chalkot ...	2,000	...	2,000		
8	...	...	Kalatopo ...	1,500	...	1,500		
9	...	...	Purti ...	1,000	...	1,000		
10	...	...	Kágne ...	500	...	500		
11	...	...	Chota Bambal ...	1,500	...	1,500		
12	...	...	Pilu ...	100	...	100		
13	...	...	Kábán ...	500	...	500		
14	...	...	Moji ...	200	...	200		
15	...	...	Saichu ...	500	...	500		
16	...	...	Bara Bambal ...	2,000	...	2,000		
17	...	...	Kúllál ...	1,500	...	1,500		
			Carried over ...	17,000	...	17,000	2,18,343	

APPENDIX C—*continued*

No.	Forest Division	Civil District	Name of reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand Total Acres	REMARKS
			Brought forward ...	17,000	...	17,000	2,18,343	
18	Chamba Pangi Range—*continued*	...	Chakmanda ...	1,000	...	1,000		Not surveyed.
19		...	Kashin ...	1,000	...	1,000		
20	...	...	Re ...	200	...	200		
21	...	...	Chas ...	1,200	...	1,200		
22	...	...	Thandál ...	500	...	500		
23	...	...	Ajoz ...	800	...	800		
24	...	...	Nildhar ...	1,000	...	1,000		
25	...	...	Paugun ...	1,000	...	1,000		
26	...	...	Thanda ...	400	...	400		
27	...	...	Shomni ...	600	...	600		
28	...	...	Shor ...	500	...	500		
29	...	...	Sagulwás ...	1,000	...	1,000		
30	...	...	Khra Kum ...	200	...	200		
31	...	...	Chanéd ...	400	...	400		
32	...	...	Sunali ...	200	...	200		
33	...	...	Kain ...	800	...	800		
34	...	...	Brakne ...	2,000	...	2,000		
35	...	...	Dhandal ...	1,000	...	1,000		
36	...	...	Rumas ...	1,000	...	1,000		
37	...	...	Salkôt ...	2,000	...	2,000		
38	...	...	Dared ...	200	...	200		
39	...	...	Kurial ...	1,000	...	1,000		
40	...	...	Ratoli ...	400	...	400		
41	...	...	Salput ...	1,200	...	1,200		
42	...	...	Shutal ...	800	...	800		
43	...	...	Riodham ...	600	...	600		
			Total Pangi Range ...	38,000	...	38,000	38,000	
1	Chamba Upper Ravi Range ...	...	Supacholu and Koru ...	1,500	...	1,500		Not surveyed.
2		...	Gagri ...	1,000	...	1,000		
3	...	...	Bír ...	1,500	...	1,500		
4	...	...	Bangotla ...	800	...	800		
5	...	...	Satol or Largera ..	4,500	...	4,500		
6	...	...	Guari ...	500	...	500		
7	...	...	Ranjal ...	500	...	500		
8	...	...	Dundi ...	100	...	100		
9	...	...	Ladadí ...	100	...	100		
10	...	...	Gui Nál ...	500	...	500		
11	...	...	Nalwás ...	1,500	...	1,500		
12	...	...	Bhorda ...	300	...	300		
13	...	...	Chota Jaura ...	250	...	250		
14	...	...	Chad Bhent ...	3,500	...	3,500		
15	...	...	Bhalka ...	250	...	250		
16	...	...	Jalári ...	1,200	...	1,200		
17	...	...	Khoran ...	2,000	...	2,000		
18	...	...	Kaletar ...	800	...	800		
19	...	...	Dhumbru ...	250	...	250		
20	...	...	Jamlá ...	400	...	400		
21	...	...	Fatri ...	1,000	...	1,000		
22	...	...	Kokeran ...	60	...	60		
23	...	...	Dhajjù ...	800	...	800		
24	...	...	Khanni ...	1,500	...	1,500		
25	...	...	Phonaga ...	100	...	100		
26	...	...	Bhangoli ...	850	...	850		
27	...	...	Malùn ...	200	...	200		
28	...	...	Ganethas ...	200	...	200		
29	...	...	Gothán ...	800	...	800		
30	...	...	Saraul ...	200	...	200		
31	...	...	Bardka ...	200	...	200		
32	...	...	Nagali ...	80	...	80		
33	...	...	Kalor ...	70	...	70		
34	...	...	Dhauri ...	100	...	100		
35	...	...	Datrund ...	1,500	...	1,500		
36	...	...	Saú ..	100	...	100		
37	...	...	Aile ...	300	...	300		
38	...	...	Sagwari ...	600	...	600		
39	...	...	Chandrál ...	500	...	500		
40	...	...	Khangu ...	2,500	...	2,500		
41	...	...	Tikhri ...	100	...	100		
42	...	...	Chíl ...	450	...	450		
43	...	...	Hungari ...	1,600	...	1,600		
44	...	...	Gamir ...	800	...	800		
45	...	...	Cháchúl ...	50	...	50		
46	...	...	Jang Banni ...	30	...	30		
47	...	...	Sagti ...	250	...	250		
48	...	...	Siya ...	128	...	128		
			Carried over ...	36,513	...	36,513	2,56,343	

APPENDIX C—*continued*

No.	Forest Division	Civil District	Name of reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand Total Acres	REMARKS
			Brought forward	36,315	...	36,315	2,56,343	
49	Chamba ...	...	Karer ...	456	...	456		
50	...	...	Barôt and Barwali ...	512	...	512		
51	...	...	Ali Drún ...	1,100	...	1,100		
52	...	...	Gutnal ...	56	...	56		
53	...	...	Hippaur and Marat ...	307	...	307		
54	...	...	Ser Paku and Chuninal	1,126	...	1,126		
55	...	...	Rakhsaine ...	1,254	...	1,254		
56	...	...	Hiling Satnú ...	2,480	...	2,480		
57	...	...	Guari ...	40	...	40		
58	...	...	Rupi Ghar and Baur ...	435	...	435		
59	...	...	Lutker ...	204	...	204		
60	...	...	Budarla ...	128	...	128		
61	...	...	Majham ...	25	...	25		
62	...	...	Deol ...	51	...	51		
63	...	...	Deosar ...	128	...	128		
64	...	...	Paui Náli ...	435	...	435		
65	...	...	Nawai ...	204	...	204		
66	...	...	Sawin ...	153	...	153		
67	...	...	Agrali (Upper, Lower and Central) Nawagran ...	562	...	562		
68	...	...	Chalan ...	512	...	512		
69	...	...	Pandhan ...	563	...	563		
70	...	...	Gandhir ...	665	...	665		
71	...	...	Pre ...	307	...	307		
72	...	...	Senrai ...	358	...	358		
73	...	...	Morú ...	844	...	844		
74	...	...	Rajir ...	281	...	281		
75	...	...	Khani ..	204	...	204		
76	...	...	Satli ...	5	...	5		
77	...	...	Brangala ...	1,049	...	1,049		
78	...	...	Maham ...	665	...	665		
79	...	...	Balgar and Harsar ...	5	...	5		
80	...	...	Tala ...	60	...	60		
81	...	...	Cholna ...	30	...	30		
82	...	...	Kugti ...	1,996	...	1,996		
83	...	...	Behanu ...	76	...	76		
84	...	...	Lal ...	102	...	102		
85	...	...	Oraul ...	281	...	281		
86	...	...	Kated ...	153	...	153		
87	...	..	Sua ...	230	...	230		
88	...	...	Dadun ...	409	...	409		Not surveyed.
89	...	...	Digola ...	1,407	...	1,407		
90	...	...	Thanálá ...	972	...	972		
91	...	...	Mohanu ...	128	...	128		
92	...	...	Kilrani ...	512	...	512		
93	...	...	Drub ...	25	...	25		
94	...	...	Rakhaini and Cholun ...	563	...	563		
95	...	...	Salakra ...	102	...	102		
96	...	...	Mandrú ...	256	...	256		
97	...	...	Sambra ...	742	...	742		
98	...	...	Urci ...	793	...	793		
99	...	...	Garjin ...	230	...	230		
100	...	...	Chitron ...	10	...	10		
101	...	...	Naini ...	10	...	10		
102	...	...	Tranu ...	15	...	15		
103	...	...	Sakral ...	50	...	50		
104	...	...	Gannu ..	10	...	10		
105	...	...	Bre ...	947	...	947		
106	...	...	Baliani ...	844	...	844		
107	...	...	Kundi ...	409	...	409		
108	...	...	Saini ...	409	...	409		
109	...	...	Kalwara ...	486	...	486		
110	...	...	Padri ...	563	...	563		
111	...	...	Bohar ...	793	...	793		
112	...	...	Charindi ...	588	...	588		
113	...	...	Rambo ...	742	...	742		
114	...	...	Lan ...	15	...	15		
115	...	...	Phatun ...	409	...	409		
116	...	...	Lanat ...	307	...	307		
117	...	...	Motaru ...	76	...	76		
118	...	...	Bhandar and Bani ...	486	...	486		
119	...	...	Supeka (2 pieces) ...	460	...	460		
120	...	...	Karasom ...	972	...	972		
121	...	...	Guari ...	307	...	307		
122	...	...	Bangal ...	332	...	332		
123	...	...	Pamgungala }	691	...	691		
124	...	...	Thali }					
125	...	...	Yali ...	281	...	281		
126	...	...	Baragun ...	256	...	256		
			Carried over ...	71,167	...	71,167	2,56,343	

APPENDIX C—*continued*

No.	Forest Division	Civil District	Name of reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand Total Acres	REMARKS
			Brought forward ...	71,167	...	71,167	2,56,343	
127	Chamba ...	...	Dugni (Upper) ...	204	...	204		Not surveyed.
128	...	...	" (Lower) ...	307	...	307		
129	...	...	Almi (right bank) ...	153	...	153		
130	...	...	" (left " ...	76	...	76		
131	...	...	Khirkit ...	537	...	537		
132	...	...	Kanhotar ...	665	...	665		
133	...	...	Guar ...	563	...	563		
134	...	...	Kalandar ...	125	...	125		
135	...	...	Dadra ...	153	...	153		
			Total Upper Ravi Range	73,950	...	73,950	73,950	
1	Chamba ...	...	Kalatope ...	2,870	2,870	...		Surveyed.
2	Kalatope Range...	...	Kainthli ...	644	...	644		
3	...	...	Baniknet ...	537	537	...		
4	...	...	Baklôh	1,280	...	1,280		
			Total Kalatope Range ...	5,331	3,407	1,924	5,331	
1	Beas ...	Hoshiárpur ...	Pinjal ...	1,765	...	1,765		Not surveyed.
2	...	Unah Tahsil ...	Lobara ...	4,285	...	4,285		
3	...	...	Darni ...	2,952	...	2,952		
			Total Unah Tahsil ...	9,002	...	9,002	9,002	
1	Do. ...	Kangra ... Dera Tahsil ...	Kalidhar Habral and portion of Gumar	731	...	731		Not surveyed.
2	...	...	Kalidhár and Gumar (2nd portion) ...	412	...	412		
3	...	...	Kalidhar and Bohan ...	250	...	250		
4	...	...	Do. and Drang and Khandwar ...	627	...	627		
5	...	...	Kalidhar and Khandwar (2nd portion) ...	107	...	107		
6	...	...	Kalidhar Bakloh ...	55	...	55		
7	...	...	Do. and Ghoala ...	133	...	133		
8	...	...	Do. and Gagrin and Bharwal ...	285	...	285		
9	...	...	Kalidhar and Thatan ...	60	...	60		
10	...	...	Do. and Chowki Dhorion ...	61	...	61		
11	...	...	Kalidhar and Tiri ...	52	...	52		
12	Beas ...	...	Ban Nalian ...	179	...	179		
13	...	...	" Khalag ...	56	...	56		
14	...	...	" Jamali ...	46	...	46		
15	...	...	" Tilli ...	1,040	...	1,040		
16	...	...	" Chal and Ghaghar...	101	...	101		
17	...	...	" Kholi ...	110	...	110		
18	...	...	" Mehr Ban ...	70	...	70		
19	...	...	" Kherian ...	460	...	460		
20	...	...	Dhar Pamali ...	195	...	195		
21	...	...	" Dhangar I ...	171	...	171		
22	...	...	" " II ...					
22A	...	...	" Jaini, Maarar and Tangli ...	508	...	508		
23	...	...	" Jaini ...	79	...	79		
24	...	...	Ban Baldea ...	565	...	565		
25	...	...	" Khamahar ...	378	...	378		
26	...	...	" Janot ...	293	..	293		
27	...	...	" Lehjung ...	1,082	...	1,082		
28	...	...	" Samlian ...	537	...	537		
29	...	...	" Kahrn ...	148	...	148		
30	..	...	" Babool ...	21	...	21		
31	...	...	" Chaplah ...	77	...	77		
22	...	...	" Chanour ...	58	...	58		
33	...	...	" Triamal ...	135	...	135		
	...	...	" Dodra ...	56	...	56		
34	Beas ...	...	Ban Bakarer ..	455	...	455		
35	...	...	" Bihan ...	127	...	127		
36	...	...	" Balian ...	30	...	30		
			Carried over ...	9,750	...	9,750	3,44,626	

APPENDIX C—*continued*

No.	Forest Division	Civil District	Name of reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand Total Acres	REMARKS
		Kangra	*Brought forward* ...	9,750	...	9,750	3,44,626	
37	Beas ...	Dera Tahsile continued.	Ban Dangara ...	35	...	35		
38	...	...	" Sadwan and Garli...	120	...	120		
39	...	...	" Kloha Khas (1st portion) ...	27	...	27		
40	...	...	" Kakar and Kloha (2nd portion) ...	26	...	26		
41	...	...	" Kharoti ...	13	...	13		
42	...	...	" Bharanta ...	86	...	86		
43	...	...	" Chaplah ...	34	...	34		Not surveyed.
44	...	...	" Kokahar ...	25	...	25		
45	...	...	" Naun ..	257	...	257		
46	...	...	" Santhala ...	403	...	403		
47	...	...	" Salcti ...	83	...	83		
48	...	...	" Aloh I ... / " " II ...	62	...	62		
49	...	...	" Jarin ...	84	...	84		
			Total Dera Range and Tahsil ...	11,005	...	11,005	11,005	
1	Beas ...	Kangra ...	Fatal ...	1,220	...	1,220		
2	...	Nurpur Táhsil ...	Mehdhar ...	375	...	375		
3	...	...	Bhel Fakman ...	79	...	79		
4	...	...	Batulu ...	309	...	309		
5	...	...	Swarka ...	38	...	38		
6	...	...	Mastghar ...	240	...	240		
7	...	...	Jakar ...	322	...	322		
8	...	...	Chitril ...	1,415	...	1,415		
9	...	...	Kalak ..	256	...	256		Ditto.
10	...	...	Talara and Goorial ...	788	...	788		
11	...	..	Khani ...	1,052	...	1,052		
12	...	...	Dhamtal ...	624	...	624		
13	...	...	Soldah ...	886	...	886		
14	...	...	Balah ...	336	...	336		
15	...	...	Dhobla and Bhali ...	1,489	...	1,489		
16	...	...	Bindraban ...	617	...	617		
		Total	Nurpur Range and Táhsil	10,046	...	10,046	10,046	
1	Beas ...	Hoshiárpur ...	Bamboo Forest ...	2,529	...	2,529	...	Ditto.
2	...	...	Kampur Do. ...	3,804	...	3,804	...	
			Total Bamboo Forests ...	6,333	...	6,333	6,333	
1	...	Gurdáspur ...	Bagarian ...	554	...	554	...	Ditto.
2	...	...	Midlamool ...	101	...	101	...	
3	...	...	Gagriwal ...	445	...	445	...	
			Total Gurdáspur Range	1,100	...	1,100	1,100	
1	Bashahar ...	Simla ...	Bheragoi ...	3,840	...	3,840		
2	...	...	Sungri ...	7,680	...	7,680		
3	...	...	Khasawara ...	640	...	640		
4	...	...	Mungladgad ...	9,600	...	9,600		
5	...	...	Tranda ...	6,400	...	6,400		
6	...	...	Nachar ...	6,400	...	6,400		
7	...	...	Parevi to Melgad ...	3840	...	3,840		
8	...	...	Yani to Punang ...	2,560	...	2,560		Ditto.
9	...	...	Phinla to Jenden ...	4,480	...	4,480		
10	...	...	Kalba to Sapin ...	1,920	...	1,920		
11	...	...	Baspa ...	12,800	...	12,800		
12	...	...	Ralli to Tidong ...	12,800	...	12,800		
13	...	...	Sipi to Chergam ...	7,680	...	7,680		
14	...	...	Bhaba ...	4,480	...	4,480		
15	...	...	Nuthpa to Kundradgad	22,400	...	22,400		
16	...	...	Balli ...	7,680	...	7,680		
			Total Bashahar ...	1,15,200	..	1,15,200	1,15,200	
			Carried over ...	...	...	...	4,88,310	

APPENDIX C—*continued*

No.	Forest Division	Civil District	Name of Reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand Total Acres	REMARKS
			Brought forward ...	...	...	...	4,88,310	
1	Jhelum ...	Jhelum ...	Rakh Sagar ...	906	906			Been roughly surveyed by Patwáris.
2	...	Jhelum Tahsíl ...	" Paniala ...	1,376	1,376			
3	...	...	" Ban Samaili ...	1,350	1,350			
4	...	...	" Jindi ...	5,500	5,500			
5	...	...	" Garat ..	1,250	1,250			
6	...	...	" Lehri ...	11,000	11,000			
7	...	...	" Nili ...	18,400	18,400			
8	...	...	" Barali ...	8,000	8,000			
9	...	...	" Tilla ..	26,000	26,000			
10	...	...	Bela Pind Ratwal ...	7	7			
11	...	...	" Pira Ghaib ...	1,300	1,300			
12	...	...	" Saila ...	182	182			
13	...	Chakwal Tahsíl ...	Rakh Diljabba ...	5,097	5,097			
14	...	...	" Drongan ...	5,716	5,716			
15	...	...	" Bagga ...	3,361	3,361			
16	...	Talagang Tahsíl ...	" Mari ...	7,500	7,500			
17	...	...	" Chinji ...	17,312	17,312			
18	...	...	" Kot Kalan ...	2,000	2,000			
			Total Jhelum ...	1,17,157	1,17,157	...	1,17,157	
1	Gujránwála ...	Gujránwála ...	Bela Thatta Faqirulla ...	393	393			
2	...	...	Kikranwali ...	576	576			
3	...	Gujrat ...	Bela Behlolpur ...	53	...	53		A Patwári map exists but nothing more.
4	...	...	" Kaulowal ...	175	...	175		
5	...	...	" Syan ...	65	...	65		
6	...	...	" Kotli Gohan ...	82	...	82		
7	...	...	" Nath ...	331	...	331		
8	...	...	" Pindi Tattar ...	260	260	...		
9	...	...	" Saudhoki ...	27	27	...		
10	...	...	Rakh Mari ...	1,004	...	1,004		A Settlement or "Lal Kitab" map exists.
11	...	...	" Dhul ...	558	...	558		
12	...	...	" Pabbi ...	25,185	...	25,185		
13	...	...	" Gohar ...	2,574	2,574	..		
14	...	...	" Bokan ...	1,862	1,862	...		
15	...	...	" Chumin Sanab ...	2,560	2,560	...		
16	...	...	" Bhikhi ...	3,510	3,510	...		
17	...	...	" Buochar ...	475	475	...		
18	...	...	" Sohawa Kadim ...	3,612	...	3,612		
19	...	...	" Judia ...	1,404	1,404	...		
20	...	...	" Tibi Taror ...	209	209	...		
21	...	...	" Wassan ...	1,199	1,199	...		
22	...	...	" Shahidanwali ...	569	569	...		
23	...	...	" Minargarh ...	899	...	899		
24	...	...	Tarmanwali ...	343	...	343		
25	...	...	Rasúl ...	1,075	...	1,075		
			Total Gujránwála ...	48,973	15,591	33,382	48,973	
1	Lahore ...	Lahore Chunian Tahsíl ...	Changa Manga ...	18,177	18,177			
2	...	Lahore Tahsíl ...	Shahdera ...	1,222	1,222			
3	...	...	Mozung ...	23	23			
4	...	Sharkpur Tahsíl ...	Jhoke ...	2,751	2,751	...	...	Surveyed.
5	...	...	Sadhanwali ...	347	347			
6	...	Amritsar ...	Nag ...	412	412			
7	...	...	Bahoru ...	571	...	571	...	Not surveyed.
8	...	...	Sarai Amanat Khan ...	1,340	...	1,340	...	"
			Total Lahore ...	24,843	22,932	1,911	24,843	
1	Mooltan ...	Montgomery ...	Ranjit Singh ...	5,120	...	5,120	...	Survey lines run around forest growth.
2	...	...	Darsona ...	1,920	...	1,920		
3	...	...	Kalera ...	4,480	...	4,480		
4	...	...	Hurapa ...	1,920	...	1,920		
5	...	...	Dad Fatiana ...	1,280	...	1,280		
6	...	...	Mirdoi ...	3,200	...	3,200		
7	...	...	Mohammedpur ...	1,920	...	1,920		
8	...	...	Montgomery ..	4,480	...	4,480		
9	...	...	Aluwal ...	1,280	...	1,280		
10	...	...	Nurshah ...	3,200	...	3,200		
11	...	...	Burj Jiwe Khan ...	4,480	...	4,480		
			Carried over ...	33,280	...	33,280	6,79,283	

APPENDIX C—*concluded*

No.	Forest Division	Civil District	Name of Reserve	Area of reserve Acres	Area surveyed Acres	Area not surveyed Acres	Grand Total Acres	REMARKS
			Brought forward ...	33,280	...	33,280	6,79,283	
12	Mooltan ...	Montgomery ...	Gashkri ...	3,840	...	3,840		
13	...	...	Okara ...	3,480	...	3,840		
14	...	...	Baggiana ...	1,280	...	1,280		
15	...	...	Bilulpur ...	640	...	640		
16	...	...	Satghara ...	1,920	...	1,920		
17	...	...	Chokian ...	1,280	...	1,280		
18	...	...	Kala ...	1,280	...	1,280		
19	...	...	Kamman ...	2,560	...	2,560		
20	...	...	Syedwalla ...	5,120	...	5,120		
			Total Montgomery Range	55,040	...	55,040	55,040	
1	...	Mooltan ...	Vinoi ..	8,960	...	8,960		
2	...	...	Mukhdumpur ...	6,400	...	6,400		
3	...	...	Akil ...	7,040	...	7,040		
4	...	...	Bura Kotla ...	4,480	...	4,480		
5	...	...	Paka Haji Majid ...	1,920	...	1,920		
6	...	...	Dungra ...	4,480	...	4,480		
7	...	...	Shujaitpur ...	1,280	...	1,280		
8	...	...	Oborah ...	640	...	640		
9	...	...	Katwalak ...	640	...	640		
10	...	...	Nawraja Bhuta ...	1,280	...	1,280		
11	...	...	Khanwah ...	1,280	...	1,280		
12	...	...	Lodhran ...	1,280	...	1,280		
13	...	...	Jalalpur ...	1,280	...	1,280		
14	...	...	Sharaf ...	5,120	...	5,120		
15	...	...	Tajwana ...	1,920	...	1,920		
16	...	...	Chak Koora ...	1,280	...	1,280		
17	...	...	Sahoki ...	20,480	...	20,480		
			Total Mooltan Range ...	69,760	...	69,760	69,760	
1	Phillour ...	Jullunder ...	Jallunder ...	50	50			
2	...	...	Phillour ...	239	239			
3	...	...	Sarangwal Block I ...	250	250			
			Total Jallunder District...	539	539		539	
1	"	Loodiana ...	Loodiana ...	190	190	...	190	Plantation.
1	"	Umballa ...	Jagadhri ...	184	184	...	184	"
			Grand Total ...	...	3,11,372	4,93,624	8,04,996	Acres.

APPENDIX D.

FOREST DEPARTMENT, PUNJAB.

Comparative statement showing Rates paid for Timber and other works.

Felling.

Hazára Division	Rate per Tree			Bashahr Division	Rate per Tree		
	Rs.	A.	P.		Rs.	A.	P.
Felling Trees ...	0	4	0	Fell ng Trees 6 to 8 feet ...	0	2	6
				8 to 10 do. ...	0	3	0
				10 to 12 do. ...	0	4	0
				over 12 do. ...	0	5	0
				Lopping Branches ...	0	3	0

Logging and Launching.

Hazára Division		Rate per log			*Chamba Division*		Rate per log			*Beas Division*		Rate per log			*Bashahr Division*		Rate per log		
Length	Girth				Length	Girth				Length	Girth				Length	Girth			
		Rs.	A.	P.			Rs.	A.	P.			Rs.	A.	P.			Rs	A	P.
Not given	Not given	2	13	0	7 feet.	under 4 feet.	0	6	0	10 to 14 feet.	5 to 7 feet.	1	4	0	under 9 feet.	4 feet.	0	9	0
					11 do.	do.	0	8	0	do.	7 to 9 do.	1	8	0	9 to 11 do	4 to 5 do.	1	0	0
					13 do.	do.	0	9	0	do.	over 9 do.	1	10	0	11 do.	5 to 8 do.	1	12	0
					17 do.	do.	0	11	0	12 to 14 feet.	5 to 7 do.	1	12	0	11 do.	8 to 10 do.	1	14	0
					21 do.	do	0	13	0	do.	7 to 9 do.	2	0	0	11 do.	10 to 12 do.	2	0	0
					over 21 do.	4 to 8 feet.	1	0	0	do.	9 to 12 do.	2	2	0	11 do.	over 12 do.	2	2	0
					7 do.	do.	0	12	0	do.	12 to 15 do.	2	5	0	17 do.	5 to 8 do.	2	6	0
					11 do.	do.	0	14	0	14 to 16 feet.	5 to 7 do.	2	2	0	22 do.	5 to 8 do.	2	12	0
					13 do.	do.	1	0	0	do,	7 to 9 do.	2	6	0					
					17 do.	do.	1	2	0	do.	over 9 do.	2	10	0					
					21 do.	do.	1	4	0	16 to 18 feet	5 to 7 do.	2	6	0					
					over 21 do.	8 to 12 feet.	1	8	0	do.	7 to 9 do.	2	14	0					
					7 do.	do.	0	14	0	do.	over 9 do.	3	10	0					
					11 do.	do.	1	0	0	18 to 20 feet.	5 to 7 do.	3	8	0					
					13 do.	do.	1	2	0	do.	7 to 9 do.	4	8	0					
					17 do.	do.	1	6	0	do.	over 9 do.	5	8	0					
					21 do.	do.	1	10	0										
					over 21 do.	do.	2	0	0										
					7 do.	over 12 feet.	1	0	0										
					11 do.	do.	1	2	0										
					13 do,	do.	1	4	0										
					17 do.	do.	1	8	0										
					21 do.	do.	2	0	0										
					over 21 do.	do.	2	8	0										

River Works.

Chamba Division	Rate per 100 cubic feet			Beas Division	Rate per 100 logs			Rate per 100 cubic feet			Jhelum Division	Rate per 100 cubic feet		
	Rs.	A.	P.		Rs.	A.	P.	Rs.	A.	P.		Rs.	A	P
Rafting logs from streams to Shahdara—				Rafting drift timber from Noushera to Wazir Bholar	...	...	..	3	4	0	Rafting timber from Bágham to Jhelum ...	3	2	6
From above Trimmu.				From Hora to Do. ...	...	...	...	3	4	0				
Deodar I and II class ...	15	10	0	Floating and rafting scantling from Mokul Khud in Kulu to Wazir Bholar including stacking ...	21	0	0	...	...	...	Rafting, landing and classifying timber at Chak Nizam and Khusháb ...	5	8	0
Pine I class ...	15	10	0											
„ II „ ...	12	8	0											
From below Trimmu.				Floating and rafting logs from Bindraban in Mandi to Wazir Bholar including landing and stacking ...	...	...	..	9	8	0				
Deodar I and II class ...	12	8	0											
Pine I class ...	12	8	0											
„ II „ ...	9	6	0											
Transport of broad-gauge sleepers from Upper Ravi forests to Shahdara, per sleeper ...	1	6	6	Transport of sleepers from Sandhar to Beas River—										
				Broad-gauge Sleeper ...	52	0	0	...	..	...				
				9′ × 10 × 5 ...	52	0	0	...	...	...				
Do. narrow-gauge do.	0	14	6	6 × 10 × 5 ...	26	1	0	...	...	...				

APPENDIX D.—*continued.*

River Works.

Gujránwála Division	Rate per 100 logs Rs.	A.	P.	Rate per 100 cubic feet Rs.	A.	P.
Rafting timber from Riah to Akhnur ...	...	...	...	1	7	0
Do. from Akhnur to Jhikár ...	...	...	...	2	12	0

Phillour Division	Rate per 100 logs Rs.	A.	P.
Rafting timber from Naila to Rúpar ...	12	0	0
Do. do. Agru to do. ...	11	0	0
Do. do. Palhan to do. ...	10	0	0
Do. do. Sarsowál to do. ...	9	0	0
Do. do. Chanouli to do. ...	8	0	0
Do. do. Naila to Phillour ...	20	0	0
Do. do. Agru to do. ...	18	0	0
Do. do. Palhan to do. ...	17	4	0
Do. do. Sarsowál to do. ...	16	15	0
Do. do. Chanouli to do. ...	...	...	...

Jhelum Division	Rate per 100 cubic feet Rs.	A.	P.
Catching and landing timber at Transit Depôts ...	2	6	0

Gujránwála Division		Rate per 100 logs Rs.	A.	P.	Rate per 100 cubic feet Rs.	A.	P.
Catching and landing timber at all transit Depôts ...	Logs ...	...	...	...	1	9	0
	Sleepers ...	3	9	0	...	...	...
	Pieces ...	1	12	6	...	.	
Do. at Akhnur Depôt	Logs ...	...	...	...	1	11	0
	Sleepers ...	3	9	0	...	..	...
	Pieces ...	1	12	6	...	...	...
Do. at Kánachak ...	Logs ...	...	..	...	1	8	0
	Sleepers ...	3	8	0	...	...	..
	Pieces ...	1	12	0	...	...	...
Do. at Chandian ...	Logs ...	...	...	...	1	15	0
	Sleepers ...	3	9	0	...	...	..
	Pieces ...	1	12	6	...	...	...
Do. at Bhagar Banitu	Logs ...	...	...	...	1	11	6
	Sleepers ...	3	9	0	...	. .	...
	Pieces ...	1	12	6	...	...	..
Do. at Tekidaran ...	Logs ...	...	...	...	1	7	0
	Sleepers ...	3	8	0	...	..	...
	Pieces ...	1	12	0	...	...	...
Do. at other Depôts	Logs ...	...	...	.	1	6	9
	Sleepers ...	3	8	0	...	...	...
	Pieces ...	1	12	0	...	...	...

Phillour Division	Rate per 100 logs Rs.	A.	P.
Catching and stacking timber in transit Depôts ...	15	8	0
Do. Do. brought in by sweeping party ...	12	0	0
Catching and rafting timber from below Rúpar to Phillour...	50	0	0

Beas Division	Rate per 100 logs Rs.	A.	P.
Landing timber at Wazir Bholar ...	50	0	0
Landing unclaimed timber at Srigovindpur ...	25	0	0

Jhelum Division	Rate per 100 cubic feet Rs.	A.	P.
Landing and classifying timber at Jhelum Depôt ...	1	4	0
Collecting stranded timber at Jhelum Depôt ...	2	2	0

Gujránwála Division	Rate per 100 logs Rs.	A.	P.	Rate per 100 cubic feet Rs.	A.	P.
Landing and classifying timber at Jhikár Depôt ...	12	8	0	...	...	...
Collecting and delivering drift timber at Jhikar ...	...	...	...	2	8	0
Do. do. do. at Mooltan ...	...	..	...	5	0	0

Depot Work.

Beas Division	Rate per 100 logs Rs.	A.	P.
Cutting Nos. on logs at Wazir Bholar Depôt ...	0	8	0
Do do. Nadaun ...	1	0	0
Do. do. Nowshera ...	1	0	0

Gujránwála Division	Rate per 100 logs Rs.	A.	P.
Cutting Nos. on logs in all depôts	1	0	0

Phillour Division	Rate per 100 logs Rs.	A.	P.
Cutting Nos. on logs in sale Depôts ...	1	4	0
Carting timber from River Bank to Depôts—			
Sleepers	3	0	0
Pieces ...	3	0	0
Logs, *per cubic foot* ...	1	7	6

APPENDIX D.—*continued.*

Conversion.

Hazára Division	Rate per 100 pieces Rs.	A.	P.	Rawalpindi Division	Rate per 100 pieces Rs.	A.	P.	Chamba Division	Rate per 100 cubic feet Rs.	A.	P.
Sawing Paluddar scantlings ...	20	0	0	Sawing of 16 feet scantlings ...	20	0	0	Sawing Deodar, Tos and Rei scantlings at Kálatop ...	2	0	0
Do. Hardwood do. ...	25	0	0	Do. do. ...	25	0	0	Sawing and carriage of scantlings from Kaintli forests to Kalatop—			
Do. Shingles ...	0	3	6	Carriage of scantlings, 12 feet ...	43	12	0	Beams over 4 cubic feet ...	75	0	0
				Do. do. 15 feet ...	50	0	0	Other scantlings ...	56	4	0
								Carriage of scantlings from forests to Kálatop—			
								Beam over 4 cubic feet ...	18	12	0
								Kurries do.	6	4	0
								Other scantlings ...	4	11	0

Fuel.

Rawalpindi Division	Rate per 100 cubic feet Rs.	A.	P.	Lahore Division	Rate per 100 cubic feet Rs.	A.	P.	Mooltan Division	Rate per 100 cubic feet Rs.	A.	P.	
								Montgomery.				
Cutting and stacking of fuel.	0	12	0	Cutting and stacking into 5' billets on compartment roads ...	0	10	0	Cutting and stacking in forests ...	0	4	6	
	0	14	0	Do. do. ...	0	15	0	Transport by camels to Ry. line...	0	12	0	5 to 8 miles from the Railway.
	0	15	0					Do. do. do. ...	1	2	0	10 to 15 do. do.
Carriage of fuel 30 miles, per maund ..	3	5	0					Stacking at line ...	0	1	0	
									0	1	6	
Carriage of fuel 12 miles, per maund....	3	1	0					Lading Railway trucks ...	0	1	0	
								Unlading	0	1	3	
								Mooltan (Sarai Sidhu).				
								Cutting and roughly stacking in forests.	0	5	0	
									0	6	0	
								Transport by camels to Railway line.	0	4	0	3 miles from Railway.
									0	8	0	6 to 10 miles from do.
								Stacking at line	0	1	0	
								Lading trucks	0	2	9	
								Unlading do.	0	1	6	
								Multán.				
								Cutting, &c., in forests ...	0	7	0	
								Lading boats	0	2	6	
								Transport by camels to banks of Sutlej	0	13	0	2 to 5 miles.
								Transport by boat to Adamwáhan	2	8	0	8 to 10 miles.
								Unlading boats	0	2	0	
								Carriage from River Bank to Adamwáhan	1	0	0	
								Cutting and stacking ...	1	0	0	
								Lodhrán.				
								Cutting, &c., in forests ...	0	8	0	
								Transport by camels to Ry. line...	1	12	0	16 miles.
								Do. do. do. ..	2	0	0	22 miles.
								Stacking at line	0	1	0	
								Lading trucks	0	1	6	
								Unlading	0	0	6	
								Dera Ghází Khan.				
								Cutting in Forests	0	7	0	
								Do. do.	0	8	0	
								Transport from river 4 to 5 miles	0	7	0	
								Do. do. do. ...	0	10	0	
								Stacking	0	3	0	
								Lading	0	2	6	
								Unlading	0	2	6	

APPENDIX D.—*concluded.*

Charcoal.

Rawalpindi Division	Rate per maund			Beas Division	Rate per 100			Phillour Division	Rate per 100		
	Rs.	A.	P.								
Manufacturing and carriage of charcoal, 30 miles .	0	10	0								
Manufacturing and carriage of charcoal, 12 miles ...	0	7	6								

Bamboos.

Rawalpindi Division	Rate per 100			Beas Division	Rate per 100			Phillour Division	Rate per 100		
	Rs.	A	P.		Rs.	A	P		Rs.	A.	P.
Cutting and carriage of Bamboos, 15 miles ..	2	3	0	Cutting and carriage of Bamboos at Pandian from 4 annas to ..	1	0	0	Carriage of Bamboos from river bank to Depôts ...	0	4	0
				Cutting and carriage of Bamboos at Núrpur from 4 annas to	1	0	0				

STATEMENTS.

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Reserved Forests, 1882-83.

Division or Range	Civil District or Territory	Name of Forest	*Area on 1st April* 1882	*Added during the year*	*Excluded or transferred to other heads*	*Area on 31st March* 1883	No. and date of Notification of addition or transfer	Remarks
			Equivalent in square miles	Square miles	Square miles	Equivalent in square miles		
Hazara	Hazára ...	Dungagali ...	63	...	...	63		
		Kághan ...	90	...	...	90		
		Siran Valley ...	33	...	...	33		
		Khánpur ...	50	...	...	50		
		Total ...	236	...	...	236		
Rawalpindi	Rawalpindi ...	*Rawalpindi.*						
		Márgalla ...	38	...	...	38		
		Baingala ...	1	...	...	1		
		Tamaira ...	7	...	...	7		
		Maira ...	2	...	...	2		
		Attock.						
		Kherimár ...	6	...	...	6		
		Kawágarh ...	7	...	...	7		
		Fatahjang.						
		Khairi Murat ...	29	...	...	29		
		Kauliál ...	2	...	...	2		
		Gujar Khan-Baghám ...	12	...	...	12		
		Total ...	104	...	...	104		
Chamba	Chamba ...	Darwás ...						
		Kilár ...						
		Sánch ...	66	...	...	66		
		Purta ...						
		Tindi ...						
		Kálatope ...	4	...	...	4		
		Kainthli ...	1	...	...	1		
		Bakloh ...	2	...	...	2		
		Bannikhet ...	1	...	...	1		
		Ravi, Suil and tributaries	150	...	28	*122	* Punjab Govt. letter No. 41 of 5th Febry. 1883 to Conservator of Forests; sanctions the reservation of 119 square miles only.	
		Total ...	224	...	28	196		
Beas	Hoshiárpur ...	Panjál ...	3	...	...	3		
		Lohara ...	7	...	...	7		
		Darni ...	5	...	...	5		
		Karnpur ...	6	...	...	6		
		Bindraban ...	4	...	...	4		
	Amritsar ...	Gagriwal ...	1	..	...	1		
	Gurdáspur ...	Bagárián and Mullanwal...	1	...	...	1		
	Kángra ...	Dera ...	17	...	...	17		
		Núrpur ...	16	...	...	16		
		Total ...	60	...	...	60		
		Carried forward ..	624	...	28	596		

Annual Form No. 49—[*Prescribed*].

Forest Department, Punjab.

Area of Reserved Forests, 1882-83—concluded.

Division or Range	Civil District or Territory	Name of Forest	*Area on 1st April 1882* Equivalent in square miles	*Added during the year* Square miles	*Excluded or transferred to other heads* Square miles	*Area on 31st March 1883* Equivalent in square miles	No. and date of Notification of addition or transfer	Remarks
		Brought forward ...	624	...	28	596		
Bashahr	Bashahr ...	Bashahr ...	135	...	...	135		
		Total ...	135	...	...	135		
Jhelum	Jhelum ...	Jhelum						
		Salt Range ...	117	...	...	117		
		Islands on river ...	2	...	...	2		
		Talagang						
		Salt Range ...	...	42	...	42	Notification No. 361 dated 21st August 1882.	
		Chakwal						
		Salt Range ...	...	22	...	22		
		Total ...	119	64	...	183		
Gujranwala	Gujrat ...	Gujrat						
		Dhul ...	2	...	...	2		
		Mari ...						
		Islands on Chenab ...	2	...	...	*2		* 185 acres excluded on account of river action.
		Pabbi Forest ...	39	...	...	39		
		Phalián ...	...	32	...	32	Notification No. 284 of 3rd July 1882.	
	Gujránwála ...	Gujránwála Plantation ...	2	...	...	†2		† 232 acres added do.
		Total ...	45	32	...	77		
Lahore	Lahore ...	Chánga Mánga ...	28	...	...	28		
		Shahdera ...	2	...	...	2	...	8 acres lost by river action.
		Jhoko ...	4	...	...	4	...	¼ " " "
		Sadhánwáli and Mozung	1	...	...	1		
	Amritsar ...	Amritsar Plantations ...	3	...	...	3		
		Total ...	38	...	...	38		
Mooltan	Mooltan ...	Sarai Sidhu ...	53	...	...	53	...	30 acres added.
		Lodhrán ...	12	...	...	12		
		Mailsi ...	45	...	...	45		
	Montgomery ...	Montgomery ...	87	...	...	87		
		Total ...	197	...	...	197		
Phillour	Ludhiána ...	Jullundur Plantation ...	1	...	...	1		
		Ludhiána and Umballa ...	1	...	...	1		
		Total ...	2	...	...	2		
		Grand Total ...	1,160	96	28	1,228		
		For 1881-82 ...	943	217	...	1,160		

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Protected Forests, 1882-83.

Division or Range	Civil District or Territory	Name of Forest	*Area on 1st April* 1882	*Added during the year*	*Excluded or transferred to other heads*	*Area on 31st March* 1883	No. and date of Notification of addition or transfer.	Remarks
			Equivalent in square miles	Acres	Acres	Equivalent in square miles		
Rawalpindi...	Rawalpindi ...	Kála Chitta ...	171	...	...	171	...	
		Total ...	171	...	...	171	...	
Gujranwala...	Gujránwála ...	Gujránwàla ...	140	...	...	140	...	
		Total ...	140	...	...	140	...	
		Grand Total ...	311	...	...	311		
		For 1881-82 ...	311	...	...	311		

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Unreserved Forests, 1882-83.

Division or Range	Civil District or Territory	Name of Forest	*Area on 1st April 1882* Equivalent in square miles	*Added during the year* Square miles	*Excluded or transferred to other heads* Square miles.	*Area on 31st March 1883* Equivalent in square miles	No. and date of Notification of addition or transfer.	Remarks
Rawalpindi.	Rawalpindi ...	Various ...	374	...	...	374		
	Peshâwar ...	...	1	...	..	1		
		Total ...	375	...	...	375		
Chamba.	Gurdâspur ...	Shahpur Kandi ...	21	...	...	21		
	Chamba Territory	Forest area in Chamba Territory ..	16	...	...	16		
		Total ...	37	...	...	37		
Beas.	Hoshiârpur ...	Various ...	66	...	...	66		
	Kângra ..	Do. ...	460	...	...	460		
		Total ...	526	...	...	526		
Bashahr.	Bashahr ...	Various ...	34	...	..	34		
		Total ...	34	...	...	34		
Jhelum.	Jhelum and Gujrat	Belâs on Jhelum River	1	...	...	1		
	Jhelum ...	Salt Range Rakhs ...	311	...	116	195		55 square miles transferred to District 61 square miles declared Reserved Forest.
	Shahpur (Khushâb)	Ditto ...	211	...	...	211		
		Total ...	523	...	116	407		
Gujranwala.	Jhang ...	Various ...	137	...	8	129		Excluded in re-measurement.
	Gujrânwâla ...	Do. ...	91	...	...	91		
	Gujrat ...	Rakhs in plains ...	32	...	32	...		Declared Reserved Forests
	Chenab River Range ...	Belâs in plains ...	12	...	...	12		
	Shahpur (Bhera)...	Rakhs ...	231	...	*8	223		* See note to para. 37 of Annual Report for 1880-81 8 miles excluded owing to re-measurement.
		Total ...	503	...	48	455		
		Carried over ...	1998	...	164	1834		

Annual Form No. 49—[*Prescribed*,

Forest Department, Punjab.

Area of Unreserved Forests, 1882-83—concluded.

Division or Range	Civil District or Territory	Name of Forest	*Area on 1st April 1882* Equivalent in square miles	*Added during the year* Square miles	*Excluded or transferred to other heads* Square miles	*Area on 1st March 1883* Equivalent in square miles	No. and date of Notification of addition or transfer	Remarks
		Brought forward ...	1,998	...	164	1,834		
Lahore.	Lahore ...	Rakhs in Lahore Tahsil	33	...	...	33		
		Rakhs in Chunian Tahsil	174	...	...	174		
		Rakhs in Sharakpur Tahsil	115	...	...	115		
		Total ...	322	...	...	322		
Mooltan.	Montgomery ..	Various Rakhs ...	773	...	2	77		2 square miles given out for cultivation by the Deputy Commissioner. 2 square miles granted to Ghulam Muhammad of Luddar.
	Mooltan ...	Do. ...	62	...	2	60		
	Muzaffargarh ...	Do. ...	89	...	...	89		
	Dera Ghâzi Khan	Do, ..	29	...	...	29		
		Total ...	953	...	4	949		
Phillour.	Umballa ...	Kalesar ...	50	...	...	50		
	Jullundur ...	Sarangwal ...	...	...	...	...		
		Total ...	50	...	...	50		
		Grand Total ...	3,323	...	168	3,155		
		For 1881-82 ...	3,560	232	469	3,323		

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1882-83.

Division	Name of Plantation	On 1st April 1882		Added during 1882-83		On 31st March 1883		Remarks
		Area	Cost	Area	Cost	Total Area	Total Cost	
		Acres	Rs.	Acres	Rs.	Acres	Rs.	
	Regular Plantations							
Jhelum ...	Pira Ghaib ...	325	2,108	...	257	125¶	2,365	¶200 acres struck off as follows:— Cleared by fellings under Punjab Govt. Order No. 82 of 25th February 1882 166; Destroyed by floods 34; Total 200 acres
Gujranwala	Bela Pindí Tatár & Náth	173	3,363	...	...	173	3,363	
	Sádhoké ...	1	312	...	...	1	312	
	Thatta Faqirullah ...	393	3,671	...	...	393	3,671	
Lahore ...	Chánga Manga ..	11,409	4,35,033	...	18,992	11,409	4,54,025	
	Shahdera (Jugian &c)	711	25,666	...	121	711	24,787	
	Jhok and Sadhanwali .	1,290	23,292	...	2	1,290	23,294	
	Nag ...	412	29,352	...	...	412	29,352	
	Morang (Carob) ...	23	4,412	...	590	23	5,002	
Beas ...	Manáli Forest Garden	2	705	...	3	2	708	
	Lee Garden ...	4	1,001	...	26	4	1,027	
Bashahr ...	Sholtu ...	6	586	...	...	6	586	
Phillour ..	Jullundur ...	51	3,740	...	...	51	3,740	* 19 acres lost by re-measurement.
	Phillour ...	239	13,892	...	...	220*	13,892	
	Ludhiána ...	190	6,941	7	...	197	6,941	
	Sabathu ...	35	7,102	88	1,907	123	9,009	
	Jagadhri ...	184	9,547	..	...	184	9,547	
	Total of Regular Plantations ...	15,448	5,70,723	95	21,898	15,324	5,92,621	
	For 1881-82.	15,428	5,52,053	20	18,670	15,448	5,70,723	
	Cultural Operations							
Hazara ...	Chánglagalli ...	44	3,477	...	...	44	3,522	
	Kujagalli ...	13		3	45	16		
	Kuth ...	10		...	...	10		
	Mari ...	...	...	5	...	5	...	
	Sunderinar in Bakôt kas	...	...	6	2	6	2	
	Mukhunyal ...	.	...	2	3	2	3	
	Malkandi ...	...	...	8	7	8	7	
	Kharraka ...	...	...	...	...	3*	91	* Omitted by Divisional Officer in last year's statement.
Rawalpindi	Khairi Murat ...	...	1,003	...	...	...	1,003	
	Barakas ...	...	65	...	112	...	181	
	Ghoragali ...	...	4					
	Peshâwar Jhil ...	...	15 178	...	192	...	15,370	
Chamba ...	Pangi—various ...	..	3,683	...	16	...	3,699	
	Bassu ...	149	3,234	...	85	149	3,319	
	Dhauri ...	25	165	...	...	25	165	
	Bakloh ...	...	158	...	...	...	158	
	Khirkigally ...	...	90	...	...	...	90	
	Kalatop ..	...	438	...	814	...	1,252	
	Kainthli ..	...	...	...	144	...	44	
	Chad Bhent ...	..	...	...	15	...	15	
	Majam ..	...	...	...	7	...	17	
	Cherri ...	...	...	...	...	2†	46	† Omitted by Divisional Officer in last year's statement.
Beas ..	Kulu Range ...	90	17,085	78	1,218	168	18,303	
	Narpur ...	4		12		16		
	Dera ...	7		16		23		
	River ...	1		...		1		
Bashahr ...	East Nachar .	10	‡ 293	...	24	10	709	‡ Rs. 1,378 omitted by Divisional Officer in last year's report, now distributed. Area also corrected.
	Sapui ...	180		...	94	180	212	
	Punang ...	16		8	40	24	484	
	Kunhi ...	...	...	1	15	1	56	
	Kilba ...	...	...	2	51	2	434	
Jhelum ...	Gandhala Nursery ...	...	...	1	212§	1	212	§ Includes Rs. 83 for purchase and carriage of seed and Rs 11 for fencing.
	Faqirulla ...	...	...	...	62‖	...	62	‖ Rs. 20 spent on carriage of plants.
Gujranwala	Pabbi *reboisement* area	200	6 986	35	986	235	7.972	
	Chichra ...	...	5,308**	...	8	...	12	
	Kikranwali ...	...	4.401**	1	110	1	110	**5304 acres excluded, being total failure.
	Phalian Rakhs ..	...	17**	...	6	...	6	
	Chak Kázi ...	...	.	5	7	5	7	4,401 do. do.
Lahore ...	Kot Lakpat ...	...	12,776	...	1,179	...	13,955	17 do. do.
	Experiments ...	...	882	...	--	...	882	
	Rakh Chandra ..	..	567	...	...	...	567	
Mooltan ...	Pakka Haji Majid ...	4	151	7	186	11	337	
	Okara reserve ...	...	7	22	244	22	251	
	Montgomery Range ...	...	...	59	20	59	20	
	Multan .	...	..	36	96	36	96	
	Total cultural operations	753	75,968	307	5,910	1,065	73,671	
	For 1881-82 ..	1,699	69,892	312	6,076	753	75,968	

Annual Form No. 50.—[*Prescribed*]

Forest Department, Punjab.

Area of Plantations, 1882-83.

Division	Name of Plantation	*On 1st April* 1882		*Added during* 1882-83		*On 31st March* 1883		Remarks
		Area	Cost	Area	Cost	Total Area	Total Cost	
		Acres.	Rs.	Acres.	Rs.	Acres	Rs.	
	Failures.							
Gujranwala	Chichra ...	...	...	...	5,304	...	5,304	
	Kikranwali ...	...	...	...	4,401	...	4,401	
	Phaliah Rakha ...	...	...	...	17	...	17	
Lahore ...	Baoli Lehna Singh ...	...	30,485	...	...	...	30,485	
	Total of Failures ...	...	30,485	...	9,722	...	40,207	
	For 1881-82 ...	...	30,448	...	37	...	30,485	
	Abstract							
	Regular plantations...	15,448	5,70,723	95	21,898	15,324	5,92,621	
	Cultural operations ...	753	75,968	307	5,910	1,065	73,671	
	Failures ...	...	30,485	...	9,722	...	40,207	
	Total ...	16,201	6,77,176	402	37,530	16,389	7,06,499	
	For 1881-82 ...	17,127	6,52,393	332	24,783	16,201	6,77,176	

FORM No. 51.

FOREST DEPARTMENT, PUNJAB.

Area of Forest Tracts protected from fire during the dry season of 1882-83.

DIVISION.	Forest tracts.	*Up to end of* 1882.		*During dry season of* 1882-83				Total cost up to 15th *June* 1883	Year in which protection commenced	REMARKS
		Area actually protected	Total cost	Area attempted to be protected	Failures	Actually protected.	Amount expended			
		Acres	Rs.	Acres	Rs.	Acres	Rs.	Rs.		
Chamba ...	Bakloh and Bannikhet ...	1,920	35			1,920	19	54	1872-74	Altered by Divisional Officer.
Beas	Parts of Lohara, Panjal and Darni ...	2,000	248	2,000		2,000	24	272	1875	
	Dhamtal ...			600		600	14	14	1879	
	Talora and Kalob ...			1,000		1,000	2	2	1882	
	Tatal and Medhar ...			1,600		1,600	8	8	...	
	Chitral and Jakar ...			1,700		1,700	5	5	...	
	Bindraban ...			600		600	7	7	1883	
Mooltan	Bibipur ...	...	...	864		864	45	45	1883	
	Baggiana ...	..	...	1,470		1,470	94	94	...	
	Okára ...	...	...	4,097		4,097	95	95	...	
Phillour ...	Kalesar ...	3,000	509	3,000	3,000	3,000	190	699	1883	The area protected in 1881-82 was a failure.
	Total ...	6,920	792	16,931	3,000	18,851	523	1,315		
	FOR 1881-82	3,920	241	6,920	...	6,920	551	792		

Charged in previous years	...	830
Do. 1882-83	...	523
TOTAL ...		1 353
FOR 1881-82		630

Rs. 38 added by Beas Division.

Annual Form No. 52.—[*Prescribed.*]

Forest Department, Punjab.

Prosecutions for breaches of Forest Rules during 1882-83.

Forest Division and Civil District	Cases pending from 1881-82	New Cases of the year: Injury to forest by fire	Unauthorized felling or appropriation of wood and minor forest produce	Grazing without permission, or in tracts in which grazing is prohibited	Other offences	Total new cases of the year	Total cases	Disposed of during the year: Convictions: Cases	Convictions: Persons	Acquittals: Cases	Acquittals: Persons	Total: Cases	Total: Persons	Cases pending at close of year
Hazara Division.														
Hazára District ...	11	30	65	33	7	135	146	100	128	39	103	139	231	7
Rawalpindi Division.														
Rawalpindi District ...	40	4	91	53	26	174	214	109	286	84	207	193	493	21
Chamba Division.														
Chamba State ...	6	6	16	1	...	23	29	19	30	9	9	28	39	1
Beas Division.														
Kángra District ...	28	36	71	5	2	114	142	119	776	14	98	133	874	9
Hoshiárpur " ...	...	2	12	...	3	17	17	16	25	...	2	16	27	1
Amritsar " ...	...	...	1	...	...	1	1	...	...	1	2	1	2	...
Bashahr Division.														
Bashahr State	6	20	8	...	17	45	51	30	57	2	2	32	59	19
Jhelum Division.														
Jhelum District ...	...	...	56	6	54	116	116	105	223	9	32	114	255	2
Shahpur " ...	...	...	2	3	4	9	9	8	16	1	3	9	19	...
Gujrat " ...	...	...	...	...	8	8	8	8	13	...	6	8	19	...
Jhang " ...	...	...	...	...	2	2	2	1	1	1	1	2	2	...
Rawalpindi " ...	...	...	...	...	1	1	1	1	1	...	...	1	1	...
Gujranwala Division.														
Gujrat District ...	5	...	27	13	3	43	48	34	38	10	43	44	81	4
Gujránwála " ...	1	...	4	4	...	8	9	6	11	2	4	8	15	1
Shahpur " ...	...	...	3	...	1	4	4	4	13	...	...	4	13	...
Jhang " ...	...	...	8	...	...	8	8	8	27	...	...	8	27	...
Siálkot " ...	...	...	3	...	...	3	3	2	6	...	...	2	6	1
Lahore Division.														
Lahore District ...	...	1	19	5	6	31	31	20	43	10	26	30	69	1
Mooltan Division.														
Montgomery District ...	6	10	26	9	23	68	74	40	55	11	27	51	82	23
Mooltan " ...	13	4	7	24	10	45	58	40	57	12	24	52	81	6
Muzaffargarh " ...	9	6	3	...	5	14	23	...	...	15	14	15	14	8
Dera Ghází Khan " ...	4	...	...	...	2	2	6	6	21	...	...	6	21	...
Phillour Division.														
Jullundur District ...	1	...	3	1	2	6	7	3	5	3	7	6	12	1
Hoshiárpur " ...	...	...	1	...	4	5	5	4	5	1	3	5	8	...
Umballa " ...	...	...	...	...	3	3	3	2	4	1	14	3	18	...
Simla " ...	...	...	5	12	1	18	18	13	17	4	9	17	26	1
Total ...	130	119	431	169	184	903	1,033	698	1,858	229	636	927	2,494	106
For 1881-82 ...	136	92	382	140	87	710	846	515	1,280	201	586	716	1,866	130

Annual Form No. 53.—[*Prescribed*]

Forest Department, Punjab

Summary of Revenue of the Different Divisions, 1882-83

Budget Heads Receipts	Direction			Hazara Division			Rawalpindi Division			Chamba Division			Beas Division			Bushahr Division			Jhelum Division			Gujránwála Division			Lahore Division			Mooltan Division			Phillour Division			Total		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
I.—Timber and other produce removed from the forests by Government Agency:—																																				
a. Timber ...	...	...	...	30,178	2	9	4,922	5	1	83,469	0	0	23,660	3	3				18,414	7	4	19,102	4	3	...	...	...	...	...	...	93,119	1	1	2,72,865	7	9
b. Firewood and Charcoal ...	...	...	...	...	...	...	38,021	0	7	2,107	15	2	...	...	...				1,081	10	1	89	9	0	15,647	6	9	...	...	...	8,822	14	6	65,770	8	1
c. Bamboos ...	...	...	...	...	...	...	1,142	9	9	...	...	...	14,993	2	8	*Nil.*			...	...	...	...	...	...	...	...	...	...	...	...	144	0	6	16,279	12	11
d. Sandal-Wood ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other Minor Produce	...	...	...	...	...	...	14	12	6	...	...	...	...	...	...				...		...	...	...	...	...	...	...	...	...	...	...	...	...	14	12	6
II.—Timber and other produce removed from the forests by consumers or purchasers:—																																				
a. Timber ...	...	...	...	1,257	9	4	3,306	14	7	186	6	3	8,753	13	11				...	...	...	...	...	...	57	12	0	834	12	3	106	5	0	14,503	9	4
b. Firewood and Charcoal ...	...	...	...	2,634	13	4	13,645	11	3	144	8	0	33	2	0				4,075	6	6	443	15	9	53,585	1	5	33,540	12	6	13,494	9	0	1,21,597	15	9
c. Bamboos ...	...	...	...	...	...	...	...	...	...	...	...	...	125	13	0	*Nil.*			...	...	...	...	...	...	...	...	...	...	...	...	202	14	6	328	13	6
d. Grazing and Fodder Grass ...	...	...	...	5,967	6	6	7,225	5	10	1	4	0	5,198	5	0				14,333	1	9	78,892	13	4	41,179	5	7	36,903	12	10	2,204	2	10	1,91,905	9	8
e. Other Minor Produce ...	...	...	...	227	1	0	153	4	4	3	4	0	127	11	0				1,315	10	6	24	4	0	1,389	10	9	1,088	5	0	...	...	...	4,329	2	7
III.—Confiscated, drift and waif wood	...	...	...	...	...	...	1,724	2	10	26	1	6	990	4	4				31,383	11	4	3,474	3	3	...	...	...	0	13	0	...	...	...	37,599	4	3
IV.—Revenue from forests not managed by Government:—																																				
a. Duty on Foreign Timber and other Forest Produce ...	...	...	...	...	...	...	...	...	...	826	13	2	2,332	12	11				15,514	5	9	1,692	9	3	...	...	...	...	...	...	1,412	5	9	21,778	14	10
b. Revenue from Shared and Private Forests ...	...	...	...	669	9	6	...	...	...	...	...	...	1,092	6	5				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,761	15	5
V.—Miscellaneous:—																*Nil.*																				
a. Fines and Forfeitures ...	...	...	...	3,774	15	6	...	...	...	18	8	0	419	14	4				...	...	...	15	11	6	2,100	0	0	...	...	...	...	...	...	6,329	1	4
b. Refunds ...	...	...	...	0	2	0	45	2	9	29	3	3	0	15	5				7	8	0	33	10	4	61	0	7	13	9	0	73	0	0	264	3	4
c. Other Sources ...	57	8	0	41	14	11	335	12	0	2,317	5	0	521	4	0				1,175	11	5	204	0	0	738	3	8	3,723	3	3	1,765	6	4	11,380	4	7
Total Receipts ...	57	8	0	44,751	10	4	70,537	1	6	89,630	4	4	58,249	12	3	*Nil.*			87,301	8	8	1,03,973	0	8	1,14,758	8	9	76,105	3	10	1,21,344	11	6	7,66,709	5	10
For 1882-83	31	14	3	30,585	13	1	61,143	1	11	52,948	11	8	65,526	8	8	91	...	...	72,651	3	6	1,57,054	12	4	76,052	3	4	61,813	4	9	1,10,429	1	2	6,88,307	10	8

Calcutta,
The 31st May 1883.

G. J. van SOMEREN, Major,
Assistant Comptroller General (Forests).

Annual Form No. 53—[*Prescribed.*]

Forest Department, Punjab.

Summary of Expenditure of the different Divisions, 1882-83.

BUDGET HEADS	Direction	Hazára Division	Rawalpindi Division	Chamba Division	Beas Division	Bushahr Division	Jhelum Division	Gujránwála Division	Lahore Division	Mooltan Division	Phillour Division	Total
A—Conservancy and Works	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P
I.—Timber and other produce removed from the forests by Government Agency—												
a. Timber ...	...	15,205 0 2	1,509 3 4	46,429 1 6	12,385 9 4	17,137 11 1	5,145 7 4	3,223 14 4	...	...	9,950 1 11	1,10,986 1 0
b. Firewood and Charcoal ..	...	...	14,947 1 9	321 8 0	...	...	...	1 2 0	3,673 6 6	...	1,599 10 7	20,542 12 10
c. Bamboos ...	...	...	380 5 5	...	3,312 3 2	...	...	...	...	...	2 3 1	3,694 11 8
d. Sandal-wood ...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce ...	...	...	12 0 0	...	...	...	...	22 6 0	...	...	...	34 6 0
II.—Timber and other produce removed from the forest by consumers or purchasers	..	46 14 0	289 8 0	360 0 0	...	...	290 3 11	50 3 9	56 2 0	232 8 8	...	1,325 8 4
III.—Confiscated, drift and waif wood ...	...	...	66 8 2	...	628 15 8	...	17,388 13 4	357 10 6	..	..	...	18,441 15 8
IV.—Revenue from forests not managed by Government—												
a. Duty on foreign timber and other forest produce .	...	...	...	...	122 0 0	...	15,911 6 1	947 7 9	...	...	832 3 4	17,813 1 2
b. Revenue from shared and priva e forests ...	...	...	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government ...	...	1,710 12 6	...	21,000 0 0	2,723 5 2	10,000 0 0	...	395 12 0	...	...	910 0 0	36,739 13 8
VI.—Live Stock, Stores, Tools and Plant—												
a Purchase of Cattle ...	...	...	...	...	...	...	...	..	...	...	...	..
b. Feed and keep of Cattle ...	...	...	..	...	...	...	..	104 12 0	198 5 3	109 1 10	93 10 5	505 13 6
c Stores, Tools and Plant ..	801 2 0	214 6 6	147 10 9	424 0 3	432 7 6	407 6 9	597 11 0	504 4 3	262 6 9	91 0 8	187 7 9	4,070 0 2
VII.—Communications and Buildings—												
a Roads and Bridges ...	...	110 14 0	1,058 13 0	502 15 3	332 10 0	3,236 13 6	...	36 10 0	...	192 8 9	16 13 6	5,488 2 0
b. Buildings ..	.	831 9 8	376 7 1	2,945 8 3	399 3 10	880 13 9	924 14 5	374 14 0	1,884 9 9	360 7 0	540 15 4	9,519 7 1
c. Other Works ...	...	...	67 6 0	3 10 6	59 12 9	...	...	...	...	19 10 3	...	150 7 6

[M.]

| | | |

Annual Form No. 54.—[*Prescribed.*]

Forest Department, Punjab.

Dr. *Account Current for the year* 1882-83. **Cr.**

	Rs.	A.	P.	Rs.	A.	P.
To Cash Balance on 1st April 1882 ...	...	...	...	4,369	15	4
„ *Revenue as per Annual Summary (Form 53)* ...	...	...	...	7,66,709	5	10
„ *Service Funds*—						
Civil Fund, Ordinary, Bengal. ...	283	2	8			
Do. Additional, do. ...	283	2	8			
Military Fund, Bengal. ...	243	0	0			
Military Fund, Madras. ...	2,305	12	1			
Military Orphan Fund, Bengal. ...	210	0	0			
Uncovenanted Service Family Pension Fund, Bengal. ...	2,652	4	0			
				5,977	5	5
„ *Deposits* ...	...	...	...	739	5	0
„ *Forest Cash Remittances Local*—						
Forest Cheques drawn ...	5,56,126	8	2			
Inter-Divisional Transfers ...	6,817	14	8			
				5,62,944	6	10
„ *Advances recoverable* ...	...	...	...	3,04,048	2	8
„ *Suspense* ...	...	...	...	7	8	0
„ *Account Current other Governments*—						
Government of India ...	1,152	6	0			
Do. do. North-Western Provinces & Oudh ...	2,509	12	3			
Do do. Bombay ...	200	0	0			
				3,826	2	3
„ *Inter-Departmental Transfers*—						
Public Works Department P N. S. Railway ...	534	8	4			
Do. do. Military Works ...	15	12	0			
Do. do. other Branches ...	41	1	9			
Civil Department—						
Mathematical Instrument Department Rs. 207 1 0						
Jails „ 1,139 5 0						
	1,346	6	9			
				1,937	11	4
TOTAL ...	...	...	...	16,50,595	14	8
FOR 1881-82 ...	...	...	...	14,67,988	1	8

	Rs.	A.	P.	Rs.	A.	P.
By Expenditure, as per Annual Summary (Form 53) ...	...	...	...	5,60,750	2	7
„ *Deposits* ...	...	...	...	2,204	3	0
„ *Forest Cash Remittances Local*:—						
Remittances to Treasuries	7,24 940	13	3			
Inter Divisional Transfers	6,827	14	8			
				7,31,768	11	11
„ *Advances recoverable* ...	...	...	...	3,04,247	4	2
„ *Account Current other Governments*:—						
Government of India ...	24	0	0			
Do. N. W. P. & Oudh ...	10	3	0			
				34	3	0
„ *Inter-Departmental Transfers*:—						
Public Works Department P. N. S Railway ...	34	0	0			
Do. do. Rewari & Ferozepore Ry. ...	3,560	4	3			
Do. do. Military Works ...	29,150	12	5			
Do. do. Other Branches ...	7,236	5	9			
Military Department, Bengal ...	1,078	15	1			
Civil Department:—						
Rewards for passing Examination Rs. 1,080 0 0						
Miscellaneous „ 1,539 12 9						
	2,619	12	9			
				43,680	2	3
Cash Balance on 31st March 1883 ...	...	...	...	7,911	3	9
TOTAL ...	...	...	...	16,50,595	14	8
FOR 1881-82 ...	...	...	...	14,67,988	1	8

CALCUTTA,
The 31*st May* 1883.

G. J. VAN SOMEREN, MAJOR,
Assistant Comptroller General (Forests).

Annual Form No. 55.—[*Prescribed.*]

Forest Department, Punjab.

Outstandings and Liabilities on account of Contractors and Disbursers for 1882-83.

Division	Department Debtor: At commencement of year			Department Debtor: Recoveries in cash and value of supplies and work done during the year			Department Debtor: At close of year			Department Creditor: At commencement of year			Department Creditor: Payments made during year			Department Creditor: At close of year			Balance Due: To Department (Outstandings)			Balance Due: By Department (Liabilities)			Remarks
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.				
Direction	...	...	...	8,197	1	2	8,197	1	2	140	0	0	9,273	1	1	9,413	1	1	1,215	15	11				
Hazára Division	...	...	...	21,525	7	8	21,525	7	8	2,608	7	8	18,917	0	0	21,525	7	8	...	...	...				
Rawalpindi "	...	...	...	26,393	3	7	26,393	3	7	999	5	7	31,361	7	5	32,360	13	0	5,967	9	5				
Chamba "	...	...	...	61,913	14	1	61,913	14	1	4,929	6	3	61,315	11	6	66,145	1	9	4,231	3	8				
Bees "	...	...	...	54,211	2	1	54,211	2	1	3,618	13	0	53,874	13	6	57,493	10	6	3,282	8	5				
Bashahr "	...	...	...	4,826	9	11	4,826	9	11	2,271	8	3	5,605	0	7	7,876	8	10	3,049	14	11				
Jhelum "	...	...	...	57,262	8	5	57,262	8	5	95	5	3	57,168	12	2	57,264	1	5	1	9	0				
Gujránwála "	...	...	...	8,749	9	6	8,749	9	6	2,770	7	11	8,132	9	11	10,903	1	10	2,153	8	4				
Lahore "	...	...	...	28,748	13	6	28,748	13	6	2,197	0	5	26,856	5	3	29,053	8	8	304	11	2				
Mooltan "	...	...	...	12,614	10	1	12,614	10	1	365	7	7	12,321	1	4	12,686	8	11	71	14	10				
Philtour "	...	...	...	19,605	2	8	19,605	2	8	719	13	5	19,421	2	5	20,140	15	10	535	13	2				
Total ...	...	...	...	3,04,048	2	8	3,04,048	2	8	20,615	11	4	3,04,247	4	2	3,24,862	15	6	20,814	12	10				
For 1881-82	...	...	...	2,34,855	11	1	2,34,855	11	1	16,796	0	11	2,38,675	5	6	2,55,471	6	5	20,615	11	4				
Transactions adjusted finally to Service Heads.																									
Lahore Division	...	...	...	(a) 582	0	0	582	0	0	582	0	0	...	...	...	582	0	0	...	...	...				(a) Written off under Punjab Government sanction No. 221 dated 23rd May 1882, and No. 253 dated 15th June 1882.
Mooltan "	...	...	...	(b) 190	15	0	190	15	0	190	15	0	...	...	...	190	15	0	...	...	...				(b) Do. Do. No. 219 dated 23rd May 1882.
Total ...	...	...	...	772	15	0	772	15	0	772	15	0	...	...	...	772	15	0	...	...	...				
For 1881-82	...	...	...	...	...	...	...	...	...	772	15	0	...	...	...	772	15	0	772	15	0				
Total ...	...	...	...	3,04,821	1	8	3,04,821	1	8	21,388	10	4	3,04,247	4	2	3,25,635	14	6	20,814	12	10				
For 1881-82	...	...	...	2,34,855	11	1	2,34,855	11	1	17,568	15	11	2,38,675	5	6	2,56,244	5	5	21,388	10	4				

Calcutta,
The 31*st May* 1883.

G. J. van SOMEREN, Major,
Assistant Comptroller General (Forests).

Annual Form No. 56.—[*Prescribed*]

Forest Department, Punjab.

Revenue received and Outstandings on account of Revenue during 1882-83.

Division	Particulars	Outstandings at commencement of year			Value of sales and other revenue during year			Total			Amount realised during year			Balance due to the Department at end of year		
		Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Direction	.....	...	...	...	57	8	0	57	8	0	57	8	0	...	...	...
Hazara Division	.....	...	...	...	44,751	10	4	44,751	10	4	44,751	10	4	...	...	...
Rawalpindi	.....	296	8	0	70,409	11	6	70,706	3	6	70,634	2	4	72	1	2
Chamba	.....	370	12	9	99,772	7	8	93,143	4	5	89,630	4	4	3,513	0	1
Beas	.....	144	1	0	58,105	12	11	58,249	13	11	58,249	13	11	...	...	...
Bashahr	.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Jhelum	.....	2,679	1	2	87,483	9	8	90,162	10	10	87,301	8	8	2,861	2	2
Gujránwála	.....	8,333	4	3	1,03,451	5	4	1,11,784	9	7	1,03,973	0	8	7,811	8	11
Lahore	.....	6,782	7	1	1,11,172	3	8	1,17,954	10	9	1,14,758	8	9	3,196	2	0
Mooltan	.....	1,893	7	9	76,048	12	7	77,942	4	4	76,105	3	10	1,837	0	6
Phillour	.....	56	7	4	1,21,289	8	10	1,21,346	0	2	1,21,344	11	6	1	4	8
	Total ...	20.556	1	4	7,65,542	10	6	7,86,098	11	10	(a) 7,66,806	8	4	19,292	3	6
	For 1881-82 ...	44.846	12	10	6,65,719	15	7	7,10,566	12	5	6,90,010	11	1	20,556	1	4

Remarks	Rs.	A.	P.
(a) Revenue as per Form 53	7,66,709	5	10
Amount written off under Punjab Government and Conservator's sanction ...	97	2	6
Total ...	7,66.806	8	4

Calcutta,
The 31*st May* 1883.

G. J. van SOMEREN, Major,
Assistant Comptroller General (Forests).

Annual Form No. 57—[*Prescribed*]

Forest Department, Punjab

Financial results of the year 1882-83.

Division	*Timber and other produce removed from the forests by Government Agency*		*Other Revenue*		*Formation, protection and improvement of forests*	*Total*		Remarks
	Receipts	Charges	Receipts	Charges	Charges	Receipts	Charges	
	Rs.	Rs.	Rs,	Rs	Rs.	Rs.	Rs.	
Hazára	30,178	26,162	14,574	9,299	15,746	44,752	51,207	
Rawalpindi	45,825	22,635	24,712	6,030	7,958	70,537	36,623	
Chamba	85,603	77,879	4,027	10,443	15,105	89,630	1,03,427	
Beas	39,643	32,309	18,606	13,734	27,001	58,249	73,044	
Bashahr	...	31,906	...	4,706	9,042	...	45,654	
Jhelum	50,880	30,670	36,422	24,212	9,987	87,302	64,869	
Gujránwála	22,666	13,278	81,307	10,129	11,579	1,03,973	34,986	
Lahore	15,648	12,290	99,111	8,960	32,133	1,14,759	53,383	
Mooltan	1	5,802	76,104	6,235	10,031	76,105	22,068	
Phillour	1.02,086	17,374	19,258	5,673	8,388	1,21,344	31,435	
Total ...	3,92,530	2,70,305	3,74,121	99,421	1,46,970	7,66,651	5,16,696	
Direction ...	...	14,818	58	14.618	14,618	58	44,054	
GRAND TOTAL ...	3,92,530	2,85,123	3,74,179	1,14,039	1,61,588	7,66,709	5,60,750	
For 1881-82 ...	3,78,903	2,71,120	3,09,405	1,00,710	1,44,440	6,88.308	5,16.270	

Form No. 58.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Trees felled by Government Agency during the year 1882-83 (*selection fellings.*)

DIVISION	Trees felled — Description	Number	REMARKS
Hazára	Biár	365	
	Paluddar	270	
	Total ...	635	
Rawalpindi	Chíl	57	
	Biár	1	
	Total ...	58	
Chamba	Deodar	3,277	
	Tos	142	
	Chíl	308	
	Rei	19	
	Walnut	15	
	Ash	6	
	Elm	11	
	Toon	5	
	Total ...	3,783	
Beas	Deodar	430	
	Chíl	68	
	Total ...	498	
Bashahr	Deodar	2,230	
	Total ...	2,230	
	ABSTRACT.		
	Deodar	5,937	
	Biár	366	
	Paluddar	270	
	Chíl	433	
	Tos	142	
	Rei	19	
	Walnut	15	
	Ash	6	
	Elm	11	
	Toon	5	
	TOTAL ...	7,204	
	For 1881-82 ...	5,840	

Form No. 59.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Outturn of Timber and other produce cut and collected by Government Agency during the year 1882-83.

Division	Produce cut and collected				Remarks
	How obtained	Description	Number or quantity	Cubic feet	
Hazara	Selection fellings ..	Deodar logs .	6,235	..	
		Biár and Hardwood scantlings .	14,364	28,591	
		Paluddar scantlings ...	21,218	26,989	
		Biár shingles ...	1,67,425	.	
		Paluddar do. ..	3,41,465	...	
		Total	5,53 737	55,580	
		Other scantlings ...	3,222	...	
		Total Timber .	3,222	..	
Rawalpindi	Selection fellings ...	Bamboos ...	14,878	...	
		Charcoal ...	14,675	...	Maunds.
		Brushwood ...	2,683	...	Do.
		Grass ...	44	...	Do.
		Total ..	20,624	..	
Chamba ...	Selection fellings ..	Deodar logs ...	17,294	...	
		Deodar sleepers ..	1,365	...	
		Walnut logs ...	92	...	
		Ash do. ...	41	...	
		Toon do. .	17	...	
		Elm do. ..	57	...	
		Deodar scantlings ...	5,185	...	
		Tos do. ..	4,433	...	
		Rei do. .	1,062	.	
		Chil do. ..	1,749	...	
	Waif ...	Deodar sleepers ...	449	...	
		Total ..	31,744	.	
Beas ...	Selection fellings ...	Deodar logs ...	2,065	41,300	
		Broad-gauge sleepers ...	2,761	9,688	
		Other scantlings ...	2,278	6,780	
		Do. ..	881	2,813	
	Collection ..	Deodar logs ...	224	6,907	
		Pine do. ...	113	2,551	
		Broad-guage sleepers .	3,550	12,311	
		Other scantlings ...	2,964	9,090	
		Walnut logs ..	2	16	
		Scraps and pieces .	3,009	533	
		Total Timber ...	17,847	91,989	
	Selection fellings ..	Bamboos ..	7,57,585	...	

Form No. 59—[*Suggested*]—*concluded.*

Division	Produce cut and collected				Remarks
	How obtained	Description	Number or quantity	Cubic feet	
Bashahr ...	Selection fellings ...	Deodar logs ...	7,550	...	
	Windfalls and dry trees	Do. ...	3,560	...	
		Total ...	11,110	...	
Lahore	Clear cutting ...	Firewood ...	...	2,73,290	
	Thinnings ...	Do. ...	...	2,55,136	
		Total ...	...	5,28,426	
Phillour ...	Clearance ...	Tors ...	1,574	...	
		Bullies ...	320	...	
		Firewood ...	...	4,20,000	
		Total ...	1,894	4,20,000	
	Abstract.				
		Deodar logs ...	36,928	48,201	
		Pine logs ...	113	2,551	
		Deodar scantlings ...	5,185	7,003	
		Paluldar do. ...	24,248	26,989	
		Biár do. ...	14,364	28,591	
		Tos do. ...	4,433	4,077	
		Rei do. ...	1,062	1,064	
		Chil do. ...	1,749	2,513	
		Walnut logs ...	94	16	
		Ash do. ...	41	...	
		Tos do. ...	17	...	
		Elm do. ...	57	...	
		Other scantlings ...	11,239	20,683	
		Broad guage sleepers ...	6,311	21,999	
		Narrow do. ...	1,814	...	
		Scraps and pieces ...	3,009	533	
		Total Timber ...	1,10,664	1,64,226	
		For 1881-82 ...	97,424	...	
		Firewood ...	...	9,48,426	
		Do. ...	...	...	
		Charcoal ...	14,675	...	Maunds.
		Shingles ...	508,890	...	Pieces.
		Bamboos ...	7,72,463	...	Do.
		Brushwood ...	2,683	...	Do.
		Grass ...	44	...	Do.
	For 1881-82 ...	Firewood ...	43,149	...	Maunds
		Do. ...	...	5,33,208	Cubic feet.
		Charcoal ...	11,554	...	Maunds.
		Shingles ...	8,44,435	...	Pieces.
		Bamboos ...	2,39,553	...	Do.
		Brushwood ...	2,655	...	Maunds.
		Grass ...	172	...	Do.

Form No. 60.—[*Suggested.*]

Forest Department, Punjab.

Timber and other Produce received from Forests in Sale Depôts during the year 1882-83.

Division	Depôt	Produce received: Description	Number or quantity	Cubic feet	Remarks
Rawalpindi ...	Rawalpindi City ...	Other scantlings ...	1,396	...	
	Rawalpindi Sadr ...	Ditto ...	442	...	
	Murree ...	Ditto ...	6	...	
		Total Timber ...	1,844	...	
	Rawalpindi City ...	Firewood ...	17,178	Mds.	
		Charcoal ...	413	"	
		Grass ...	44	"	
		Bamboos ...	11,572	...	
	Rawalpindi Sadr ...	Firewood ...	10,800	Mds.	
		Charcoal ...	736	"	
		Bamboos ...	3,285	...	
	Murree ...	Charcoal ...	12,200	Mds.	
Chamba ...	Shahdara ...	Deodar logs ...	1,580	32,703	
		Pine do. ...	1,228	22,270	
		Broad-gauge sleepers ...	9,520	31,961	
		Narrow-gauge " ...	4,957	8,645	
		Scraps and pieces ...	2,450	12,290	
	Shahpur ...	Deodar logs ...	40	2,122	
		Broad-gauge sleepers ...	5,929	20,319	
		Narrow-gauge " ...	1,414	2,549	
		Scraps and pieces ...	1,901	9,038	
	Kálatope ...	Broad-gauge sleepers ...	1,130	3,649	
		Deodar scantlings ...	5,18[illegible]	7,003	
		Tos ...	4.433	4,077	
		Rei " ...	1,062	1,064	
		Chil " ...	1,749	2,513	
		Total Timber ...	42,578	160,173	
Beas ...	Wazir Bholar ...	Deodar logs ...	356	9,867	
		Pine do. ...	186	4,434	
		Maple do. ...	1	8	
		Broad-gauge sleepers ...	6,201	21,637	
		Other scantlings ...	4,500	15,841	
		Scraps and pieces ...	1,302	1,381	
		Total Timber ...	12.546	53,168	
	Dhamtal ...	Bamboos ...	85,528	...	
	Pandian ...	do. ...	671.057	...	
		Total Bamboos ...	757,585	...	

Form No. 60—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce received from Forests in Sale Depôts during the year 1882-83.

DIVISION	Depôt	Produce received: Description	Number or quantity	Cubic feet	REMARKS
JHELUM ...	Jhelum ...	Deodar logs ...	10,162	148,813	
		Pine do. ...	10,296	166,796	
		Other scantlings ...	1,803	62	
		Scraps and pieces ...	12,806	72,348	
	Chak Nizám ...	Deodar logs ...	1,888	57,876	
		Pine logs ...	2,428	61,422	
		Other scantlings ...	299	1,131	
		Scraps and pieces ...	403	2,877	
	Khushâb ...	Deodar logs ...	3,324	54,014	
		Pine do. ...	9,176	102,262	
		Other scantlings ...	472	1,134	
		Scraps and pieces ...	1,133	9,204	
		Total Timber ...	54,190	677,039	
	Jhelum ...	Firewood ...	83	14,500	
GUJRANWALA ...	Jhikar ...	Deodar logs ...	1,969	39,151	
		Pine do. ...	35	465	
		Broad-gauge sleepers ...	3,562	12,460	
		Scraps and pieces ...	387	625	
	Mooltan ...	Deodar logs ...	31	383	
		Pine do. ...	22	196	
		Broad-gauge sleepers ...	10	32	
		Narrow do. ...	1	4	
		Scraps and pieces ...	56	141	
		Total Timber ...	6,073	53,457	
Lahore ...	Chânga Mánga ...	Firewood ...	...	252,315	
	Jhok ...	ditto ...	...	17,437	
	Shahdera ...	ditto ...	...	211,125	
		Total Firewood ...	...	4,80,877	

Form No. 60.—[*Suggested.*]

Forest Department, Punjab.

Timber and other Produce received from Forests in Sale Depôts during the year 1882-83—(concluded.)

Division	Depôt	Produce received			Remarks
		Description	Number or quantity	Cubic feet	
Phillour ...	Phillour ...	Deodar logs ..	2,616	67,845	
		Pine do. ..	214	3,497	
		Other scantlings ...	115	166	
		Scraps and pieces ...	2,260	...	
	Rúpar ...	Deodar logs ...	5,032	91,021	
		Pine do. ...	300	4,877	
		Scraps and pieces ...	231	...	
		Total Timber ...	10,768	167,406	
	Phillour ...	Bamboos ...	2,760	...	
	Rúpar ...	Do. ...	1,355	...	
		Total Bamboos ...	4,115	..	
		Abstract of circle.			
		Deodar logs ...	26,998	503,795	
		Pine do. ...	23,885	366,219	
		Deodar scantlings ...	5,185	7,003	
		Chil do. ...	1,749	2,513	
		Tos do. ..	4 433	4,077	
		Rei do. ...	1,062	1,064	
		Other do. ...	9,033	18,334	
		Broad-gauge sleepers ...	26,352	90,058	
		Narrow do ..	6,372	11,198	
		Scraps and pieces ...	22,920	107,902	
		Maple logs ...	1	8	
		Total Timber ...	127,999	1,112,171	
		For 1881-82 ...	65,491	497,412	
	For 1881-82 ...	Firewood ...	27,978	...	Maunds
		Do. ...	...	495,377	
		Charcoal ...	13,349	...	Maunds
		Grass ...	44	...	"
		Bamboos ...	7,76,557	...	Pieces
		Firewood ...	42,589	...	Maunds.
		Do. ...	...	510,542	Cubic feet.
		Charcoal ...	11,554	...	Maunds.
		Grass ...	167	...	"
		Bamboos ...	573,197	...	Pieces.

Form No. 61.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1882-83.

DIVISION	Depôt or locality	Produce sold			REMARKS
		Description	Number or quantity	Cubic feet	
		SOLD FROM DEPÔTS.			
Rawalpindi ...	Rawalpindi City ...	Other Scantlings ...	3,055		
		Door Frames ...	12		
		Bamboos ...	12,396		
		Firewood ...	25,026		Maunds
		Charcoal ...	723		Do.
		Grass ...	44		Do.
	Rawalpindi Sadr ...	Other Scantlings ...	540		
		Bamboos ...	848		
		Firewood ...	24,536		Maunds
		Charcoal ...	1,862		
	Murree ..	Other Scantlings ...	341		
		Charcoal ...	11.402		Maunds
Chamba ...	Shadora ...	Deodar logs ...	79	3,780	
		Pine do. ...	1,228	22,266	
		B. G. sleepers ...	20,167	69,979	
		Scraps and pieces ...	2,446	9,904	
	Shahpur ...	Scraps and pieces ...	141	450	
	Kálatope ...	Broad Gauge sleepers ...	112	392	
		Deodar Scantlings ...	4 918	7,014	
		Tos do. ...	4,194	4,396	
		Chil do. ...	2,256	4,215	
		Rei do. ...	991	997	
		Scraps and pieces ...	417	5,941	
Beas ...	Wazir Bholár ...	Deodar logs ...	613	14,984	
		Pine do. ...	332	8,036	
		Walnut ...	1	7	
		B. G. sleepers ...	108	374	
		Other scantlings ...	4,092	14,261	
		Scraps and pieces ...	408	262	
	Dhamtál and Pandian...	Bamboos ...	7,57,653	...	
Jhelum ...	Jhelum ...	Deodar logs ...	3,134	70,678	
		Pine. do. ...	7,086	94,221	
		Other scantlings ...	301	456	
		Scraps and pieces ...	11,408	64,951	
		Firewood ...	83	14,500	
	Chak Nizam ...	Deodar logs ...	967	32,278	
		Pine do. ...	2,327	59,028	
		Scraps and pieces ...	315	1,750	

Form No. 61.—[*Suggested*]

Forest Department, Punjab.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1882-83.

Division	Depôt or locality	Produce sold			Remarks
		Description	Number or quantity	Cubic feet	
		Sold from Depôts—*continued.*			
Jhelum ...	Khushab ...	Deodar logs ...	1,300	18,687	
		Pine do. ...	5,956	68,625	
		Other scantlings ...	12	43	
		Scraps and pieces ...	146	921	
Gujranwala ...	Jhikar ...	Deodar logs ...	1,115	17,972	
		Pine do. ...	35	465	
		B. G. sleepers ...	3,755	13,144	
		Scraps and pieces ...	367	625	
	Mooltan ...	Deodar logs ...	90	1,354	
		Pine do. ...	28	255	
		B. G. sleepers ...	35	114	
		N. G. do. ...	4	11	
		Scraps and pieces ...	47	221	
Lahore ...	Changa Manga ...	Firewood ...	...	3,37,881	
	Shadera ...	Do. ...	...	16,300	
	Jhoke ...	Do. ...	...	18,937	
Phillour ...	Phillour ...	Deodar logs ...	4,374	1,01,386	
		Pine do. ...	214	3,497	
		Other scantlings ...	115	171	
		N. G. sleepers ...	951	1,443	
		Scraps and pieces ...	2,259	...	
		Bamboos ...	2,732	...	
	Rupár ...	Deodar logs ...	3,613	57,722	
		Pine do. ...	299	4,847	
		Bamboos ...	150	...	
		Sold Locally.			
Hazara ..	Dungagalli Range ...	Hardwood scantlings ...	14,296	28,456	
		Paluddar do. ...	24,006	26,683	
		Biar shingles ...	1,50,125	...	
		Paluddar do. ...	3,39,990	...	
Rawalpindi ...	Rawalpindi Range ...	Bamboos ...	21	...	
		Firewood ...	3	...	Maunds
		Charcoal ...	4	...	Do.
	Murree Range ...	Other scantlings ...	3,669	...	
		Firewood ...	13,461	...	Maunds
		Brushwood ...	2,683	...	Do.
	Kahuta do. ...	Firewood ...	196	...	Do.

Form No. 61.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB

Sales of Timber and other Produce cut and collected by Government Agency during the year 1882-83.

DIVISION	Depôt or locality	Produce sold			REMARKS
		Description	Number or quantity	Cubic feet	
		SOLD LOCALLY—*concluded.*			
Chamba ...	River Banks ...	Deodar logs ...	61	1,188	
		Pine do. ...	59	1,388	
		Deodar scantlings ...	1,059	685	
		Pine do. ...	10	7	
		Scraps and pieces ...	529	25,754	
Beas ...	Various ...	Deodar logs .	24	940	
		Pine do. ...	3	84	
		Other scantlings ...	391	1,517	
		Miscellaneous ...	901		
Gujranwala ...	Jhang ...	Deodar logs ...	4	48	
	Kikranwali ...	Firewood ..	...	532	
Lahore ...	Nag ...	Firewood ...	...	12,500	
	Korotana ...	Do. ..	...	3,100	
	Bauli Lena Singh .	Do. ...	...	37,909	
	Toria ...	Do. ...	...	3,000	
	Fatepur ...	Do. ...	...	1,563	
	Mandianwala ...	Do. ...		1 287	
	Carob plot ...	Do. ...	.	1,890	
Phillour ...	Kalesar ...	Tos ...	1,142	..	
	Sarangwal Rakh ...	Firewood	836	4,18,000	
	Transit Depôts .	Deodar logs ...	17	594	
		Firewood ..	161	..	
		ABSTRACT OF THE CIRCLE. *Sold from Depôts*			
		Deodar logs ...	15,285	3,16,841	
		Pine do. ...	17,505	2,61,240	
		Walnut do. ...	1	7	
		B. G sleepers ...	24,177	84,003	
		N. G. do. ...	955	1,454	
		Deodar scantlings ...	4,948	7,014	
		Tos do. ...	4,194	4,396	
		Chil do. ...	2,256	4,245	
		Rei do. ...	991	997	
		Other do. ...	8,456	14,931	
		Door Frames ...	12	...	
		Scraps and pieces ...	17,954	85,025	
		TOTAL TIMBER ...	96,734	7,82,143	
		For 1881-82 ...	56,200	5,33,297	

Form No. 61.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Sale of Timber and other Produce cut and collected by Government Agency during the year 1882-83.

DIVISION	Depôt or locality	*Produce sold*			REMARKS
		Description	Number or quantity	Cubic feet	
		ABSTRACT OF THE CIRCLE—*concluded*			
		Sold from Depots—concluded			
		Bamboos ...	7,73,779	...	
		Firewood ...	49,562		Maunds
		Do .	88	3,87,618	
		Charcoal ...	13,987	...	Maunds
		Grass	44	...	
		For 1881-82 { Bamboos ..	5,66,678	..	Pieces
		Firewood .	15,301		Maunds
		Do	..	5,89,284	Cubic feet.
		Charcoal ..	2,364	.	Maunds.
		Grass	388		Do.
		Sold Locally			
		Deodar logs	106	2,770	
		Pine do .	62	1,472	
		Other scantlings ..	4,060	1,517	
		Deodar do	1,059	685	
		Tos do ...	1,142	...	
		Pine do	10	7	
		Hardwood do. ..	14,296	28,456	
		Paluddar do .	24,006	26,683	
		Scraps and pieces ..	529	25,754	
		Miscellaneous .	701	...	
		Total Timber ..	45,971	87,344	
		For 1881-82 .	32,551	45,643	
		Bamboos ..	21	...	Pieces
		Firewood	13,660	..	Maunds.
		Do ...	997	4,79,781	Cubic feet stacked.
		Brushwood ..	2,683	.	Maunds.
		Shingles ...	4,90,115	...	Pieces.
		Charcoal ...	4	...	Maunds.
		For 1881-82 ... { Bamboos ...	5	...	
		Firewood ...	11,397	...	Maunds.
		Do. ...	...	49,284	Cubic feet.
		Brushwood ...	1,755	...	Maunds.
		Grass ..	5	...	Do.
		Shingles ..	8,39,785	...	Pieces.

Annual Form No. 62.—[*Prescribed.*]

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts, or sold locally during the Year 1882-83.

Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
Balance in hand at commencement of the year.				
Rawalpindi Division.				
Other scantlings ...	2,546	...		
Door frames ...	12	...		
			2,558	...
Chamba Division				
Broad-gauge sleepers ...	13,738	47,671		
Narrow " ...	500	665		
Deodar scantlings ...	1,275	1,075		
Tos " ..	505	907		
Oak " ...	79	48		
Chil " ...	1,147	2,282		
			17,244	52,648
Beas Division.				
Deodar logs ...	427	11,436		
Pine " ...	146	3,602		
Walnut " ..	28	169		
Maple " ...	41	270		
Box-wood " ...	10	6		
Broad-gauge sleepers ...	5	17		
Deodar scantlings .	213	701		
Walnut " .	28	52		
Maple " ...	203	512		
			1,101	16,765
Gujranwala Division.				
Deodar logs ...	59	971		
Pine logs ...	6	59		
Broad-gauge sleepers ...	1,291	4,511		
Narrow " ...	3	7		
Ash logs ...	1	9		
Scraps and pieces ..	14	80		
			1,374	5,637
Phillour Division.				
Deodar logs ...	1,758	33,541		
Narrow-gauge sleepers ...	951	1,443		
			2,709	34,984
Carried forward ...	..	...	24,986	110,034

Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
Removed by purchasers from depôts.				
Deodar logs ...	15,285	318,841		
Pine " ...	17,505	261,240		
Walnut " ...	1	1		
Broad-gauge sleepers ..	24,177	84,003		
Narrow " ...	955	1,454		
Deodar scantlings ...	4,948	7,014		
Tos " ...	4,194	4,396		
Chil " ...	2,256	4,245		
Rei " ..	991	997		
Other " ...	8,456	14,931		
Door Frames ...	12	...		
Scraps and pieces ...	17 954	85,025		
			96,734	782,153
Sold locally.				
Deodar logs ..	106	2,770		
Pine " ...	52	1,472		
Deodar scantlings ..	1,059	685		
Pine " ...	10	7		
Tos " ...	1,142	...		
Other " ...	4,060	1,517		
Hardwood " ...	14,296	28,456		
Paluddar " .	24,006	26,683		
Scraps and pieces ...	529	25,754		
Miscellaneous ...	701	...		
			45,971	87,344
Used by the Department.				
Deodar logs ...	9	437		
Pine " ...	...	3		
Deodar scantlings ...	307	368		
Tos " ..	73	54		
Oak " ...	16	11		
Walnut " ...	4	10		
Other " ..	10	...		
Biar " ...	68	134		
Paluddar " ..	242	306		
Broad-gauge sleepers ...	4	14		
Scraps and pieces ...	13	56		
			746	1,393
Carried forward ...	...	...	143,151	870,890

Annual Form No. 62.—[*Prescribed*]—continued

Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
Brought forward ...	...	...	24,986	110,034
Received from the forests in depôts.				
Deodar logs ..	26,998	503,795		
Pine " ...	23,885	366,219		
Deodar scantlings ...	5,185	7,003		
Chil " ...	1,749	2,513		
Tos " ...	4,433	4,077		
Rei " ...	1,062	1,064		
Other " ...	9,036	18,334		
Broad-gauge sleepers ...	26,352	90,058		
Narrow-gauge " ...	6,372	11,198		
Scraps and pieces ...	22,929	107,902		
Maple log ...	1	8		
			127,999	1,112,171
Received from the forests and sold locally.				
Deodar logs ...	106	2,770		
Pine " .	62	1,472		
Deodar scantlings ...	1,059	685		
Pine " ..	10	7		
Tos " ...	1,142	...		
Other " ..	4,060	1,517		
Hardwood " ..	14 296	28,456		
Paluddar " ...	24,006	26,683		
Scraps and pieces .	529	25,754		
Miscellaneous ..	701	...		
			45,97	87,344
Received from the forests locally and used by department.				
Biar scantlings ..	68	134		
Paluddar " ...	242	306		
			310	440
Received by transfers from other classes.				
Walnut scantlings ...	1	3		
			1	3
Total ...	...	...	199,267	1,309,992

Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
Brought forward ...	...	...	143,451	870,890
Transferred to other classes				
Maple scantlings ...	1	3		
			1	3
Returned to owners.				
Deodar logs ...	7,731	90 899		
Other scantlings ...	2,414	1,662		
Scraps and pieces .	1,816	10,666		
			11,961	103,227
Lost by measurement.				
Deodar logs ...	...	82		
Broad-gauge sleepers ...	4	10		
			4	92
Paid in kind for delivery.				
Scraps and pieces .	13	20		
			13	20
Balance at the close of the year				
Rawalpindi Division.				
Scantlings ..	380	...		
Planks ...	64	...		
			444	...
Chamba Division.				
Deodar logs ...	1,540	31,022		
Broad-gauge sleepers ...	10,938	33,229		
Narrow-gauge " ...	6,871	11,859		
Scraps and pieces ...	1,347	5,003		
Deodar scantlings ...	1,217	741		
Tos " ...	671	534		
Rei " .	71	67		
Oak " ...	63	36		
Chil " ...	640	550		
			22,458	83,041
Beas Division.				
Deodar logs ...	170	6,237		
Walnut " ...	27	162		
Maple " ...	42	278		
Boxwood " ...	10	6		
Broad gauge sleepers .	6,094	21,266		
Other scantlings ...	609	2,235		
Walnut " ..	25	45		
Maple " .	202	509		
Scraps and pieces ..	133	...		
			7,312	30,738
Jhelum Division.				
Deodar logs ...	2,235	47 812		
Pine " ...	6,530	108 541		
Other scantlings ...	864	679		
Scraps and pieces ...	895	6,701		
			10,024	163,733
Gujranwala Division				
Deodar logs ...	854	21,179		
Broad-gauge sleepers ...	1,069	3,731		
Ash logs ..	1	9		
Scraps and pieces ...	23	...		
			1,947	24 910
Phillour Division.				
Deodar logs ..	1,419	33,299		
Pine " ...	1	30		
Scraps and pieces ..	232	...		
			1,652	33,329
Total ...	...	...	199,267	1,309,992

Annual Form No. 62—[*Prescribed*]—continued

Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet	Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
					ABSTRACT.				
Balance at commencement of the year ...	...	...	24,986	110,084	Removed by purchasers ...	...	...	96,734	782,153
					Sold locally ...	...	...	45,971	87,344
Received from the forests in Depôts during the year ...	...	...	127 999	1,112,171	Used by the Department ..	...	...	746	1,393
					Transferred to other classes ...	...	...	1	3
Received from the forests and sold locally during the year...	...	...	45,971	87,344	Returned to owners ...	...	...	11,961	103,227
					Lost by measurement ...	...	...	4	92
Received from the forests locally and used by Department ...	...	...	310	440	Paid in kind for delivery ...	...	...	13	20
					Balance at close of the year ...	...	...	43,837	335,760
Received by transfers from other classes ...	...	...	1	3					
Total ...	...	...	199,267	1,309,992	Total ...	...	...	199,267	1,309,992
For 1881-82 ...	...	...	114,328	691,494	For 1881-82 ...	...	...	114,328	691,494

FIREWOOD AND CHARCOAL.

Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet	Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
Balance in hand at commencement of the year					Removed by purchasers.				
Rawalpindi Division.					Firewood ... Mds ...	49,562	...	49,562	...
Firewood ... maunds ...	32,137	...	32,137	...	" ... c. ft. ...	...	387,618	...	387,618
Charcoal ... " ...	4,927	...	4,927	...	Charcoal ... Mds. ...	13,987	...	13,987	...
					Grass ... " ..	44	...	44	...
Lahore Division					Sold locally				
Firewood ... cubic feet ...	...	87,066	...	87,066	Firewood ... Mds. ...	13,660	...	13,660	...
					" ... c. ft. ...	...	479,781	...	479,781
Received from the forests in depôts.					Brushwood ... Mds. ...	2,683	...	2,683	...
Firewood ... Mds. ...	27,978	...	27,978	...	Charcoal ... " ...	4	...	4	...
" ... c. ft. ...	...	495,377	...	495,377	Used by Department.				
Charcoal ... Mds. .	13,349	...	13,349	...	Firewood ... Mds. ..	5	...	5	...
Grass ... " ..	44	...	44	...	Struck off as useless.				
					Firewood ... Mds. ...	205	...	205	...
					Charcoal ... " ..	748	...	748	...
Received from the forests and sold locally					Balance at close of the year.				
Firewood . Mds. ...	13,660	...	13,660	...	**Rawalpindi Division.**				
" ... c. ft. ...	...	479,781	...	479,781	Firewood ... Mds. ...	10,343	...	10,343	...
Brushwood ... Mds. ...	2,683	...	2,683	...	Charcoal " ...	3,541	...	3,541	...
Charcoal ... " ...	4	...	4	...	**Lahore Division.**				
					Firewood ... cubic feet ...	...	194,825	...	194,825
Total ...	91,782	1,062,224	91,782	1,062,224	Total ...	94,782	1,062,224	94,782	1,062,224
For 1881-82 ...	76,327	730,584	76,327	730,584	For 1881-82 ...	76,327	730,584	76,327	730,584

Annual Form No. 62—[*Prescribed*]—concluded

Particulars	No. or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
BAMBOOS				
Balance in hand at commencement of the year				
Rawalpindi Division.				
Bamboos ...	7,306	...	7,306	...
Boas Division.				
Bamboos ...	810	...	810	...
Received during the year ...	776,557	...	776,557	...
Received from the forests and sold locally.				
Bamboos ...	21	...	21	...
Total ...	784,694	...	784,694	...
For 1881-82 ...	...	...	575,705	...

Particulars	No or quantity	Cubic feet	Total of each head: No. or quantity	Total of each head: Cubic feet
Removed by purchasers.				
Bamboos ...	773,779	...	773,779	...
Sold locally				
Bamboos ...	21	...	21	...
Used by Department.				
Bamboos ...	2,041	...	2,041	...
Struck off as useless.				
Bamboos ...	500	...	500	...
Lost by measurement.				
Bamboos ...	32	...	32	...
Balance at close of year.				
Rawalpindi Division.				
Bamboos ...	7,110	...	7,110	...
Phillour Division.				
Bamboos ...	1,211	...	1,211	...
Total ...	784,694	...	784,694	...
For 1881-82 ...	...	.	575,705	..

SHINGLES

Balance at commencement of the year.				
Received from the forests and sold locally ...	490,115	...	490,115	...
Received from the forests locally and used by Department ...	18,775	...	18,775	...
Total ...	508,890	...	508,890	...
For 1881-82 ...	...	...	844,435	...

Sold locally ...	490,115	...	490,115	...
Used by Department ...	18,775	...	18,775	..
Balance ...	...	...	...	...
Total ...	508,890	...	508,890	...
For 1881-82 ...	...	...	844,435	...

Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected, and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1882-83.

Division	Produce removed — Description	No. or quantity	Amount of revenue	Amount actually realized during the year	Remarks
Hazara ...	Pine and Paluddar Trees ...	87	364	364	
	Deodar Trees ...	1	10	10	
	Chil Trees ...	24	99	99	
	Ash do. ...	12	480	480	
	Total Trees ...	124	953	953	
	Dry Timber ...	78	305	305	
	Firewood, cubic feet ...	50,465	2,635	2,635	
	Grass, maunds ...	71,333	4,458	4,458	
	Grazing dues ...	...	1,509	1,509	
	Total Grass ...	...	5,967	5,967	
	Miscellaneous Produce ...	636	227	227	
	Total Revenue under II ...	...	10,087	10,087	
Rawalpindi ...	Chil Trees ...	592	2,818	2,818	
	Miscellaneous Trees ...	215	346	346	
	Total Trees ...	807	3,164	3,164	
	¼ share on Chil Trees ...	...	15	15	
	Branches ...	...	128	128	
	Firewood stacks, cubic feet ...	172,654	2,620	2,620	
	Do. by permits, maunds ...	96,265	4,206	4,206	
	Total Firewood ...	...	6,826	6,826	
	Charcoal, maunds ...	6 406	2,803	2,803	
	Limekilns ...	344	4,017	4,017	
	Total Charcoal ...	...	6,820	6,820	
	Grazing by permits and leases ...	...	7,225	7,225	
	Imli leaves ...	...	153	153	
	Total Grazing ...	...	7,378	7,378	
	Total Revenue under II ...	...	24,331	24,331	
Chamba ...	Deodar Tree ...	1	2	2	
	Tos " ...	1	2	2	
	Chil Trees ...	21	126	126	
	Plum " ...	3	3	3	
	Total Trees ...	26	133	133	
	Firewood ... Pieces ...	1,610	202	202	
	Firewood ... Loads ...	5,259			
	Firewood ... Cubic feet .	1,000			
	Total Revenue under II .	...	335	335	

Form No. 63.

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce cut, collected, and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1882-83—continued.

Division	Produce removed: Description		No. or quantity	Amount of revenue	Amount actually realized during the year	Remarks
Beas ...	Deodar Trees	...	426	425	425	
	Chil	...	4,694	7,796	7,796	
	Miscellaneous Trees	...	1,236	210	210	
	Total Trees	...	6,356	8,431	8,431	
	Sal Poles and Beams	...	3,913	323	323	
	Firewood	...	...	33	33	
	Bamboos	...	9,875	126	126	
	Grass	...	...	1,844	1,844	
	Grazing dues	...	...	3,356	3,356	
	Total Grass	...	...	5,198	5,198	
	Miscellaneous	..	...	128	128	
	Total Revenue under II	...	...	14,239	14,239	
Jhelum ...	Firewood ... Cubic feet	...	66,086	4,075	4,075	
	Firewood ... Loads	...	2,732			
	Firewood ... Maunds	...	1,100			
	Grazing	...	...	14,333	14,333	
	Coal, tons	...	354	89	89	
	Stone, cubic feet	...	95,814	879	879	
	Miscellaneous	...	...	348	348	
	Total Revenue under II	...	...	19,724	19,724	
Gujranwala ...	Firewood, cubic feet	...	4,342	444	444	
	Grazing Leases	...	...	81,374	73,563	
	Grass, loads	...	1,500	65	65	
	„ acres	...	...	5	5	
	Grazing cattle	...	16,599	5,260	5,260	
	Total Grazing	...	...	86,704	78,893	
	Miscellaneous	...	...	24	24	
	Total Revenue under II	...	...	87,172	79,361	

Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected, and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1882-83—concluded

Division	Produce removed — Description	No. or quantity	Amount of revenue	Amount actually realized during the year	Remarks
Lahore ...	Trees ...	67	58	58	
	Firewood ...	...	52,733	52,733	
	Brushwood ...	...	852	852	
	Total Firewood ...	...	53,585	53,585	
	Grazing and Grass ...	...	41,179	41,179	
	Munj, Kana, &c. ...	...	1,390	1,390	
	Total Revenue under II ...	...	96,212	96,212	
Mooltan ...	Trees ...	8,418	835	835	
	Firewood, cubic feet ...	1,172,112	33,541	33,541	
	" maunds ...	6,968	...	..	
	Grazing and Grass ...	...	36,715	36,904	Loads 42. Cattle 4,294.
	Miscellaneous ...	...	1,221	1,088	
	Total Revenue under II ...	...	72,312	72,368	
Phillour ...	Miscellaneous Timber ...	...	106	106	
	Firewood, maunds .	8,872	444	444	
	" 145 acres ...	72,500	13,050	13,050	
	Total Firewood ...	...	13,494	13,494	
	Bamboos ...	1,305	203	203	
	Grass, maunds ...	21,263	139	139	
	Grazing Cattle ...	530	218	218	
	" Goats and Sheep ...	97	12	12	
	Grass, 19 Tickets ...	...	35	35	
	Grazing Leases ...	...	1,700	1,700	
	Miscellaneous ...	*	100	100	* Kankar 1,050 maunds, Bricks 4,000.
	Total Grazing ...	...	2,204	2,204	
	Total Revenue under II ...	...	16,008	16,008	
	Total Revenue of the Circle ...		3,20,696	3,32,666	
	1881-82 ...		2,74,912	2,77,158	

Form No. 65.—[*Suggested*]

Forest Department, Punjab.

Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1882-83

Description of Timber and other Produce	On hand at commencement of the year			On hand at close of the year			Difference in value		Remarks
	No.	Cubic feet	Value	No.	Cubic feet	Value	In favor of the year	Against the year	
			Rs.			Rs.	Rs	Rs	
Deodar timber	2,244	45,948	28,717	6,218	139,549	87,218	58,501	...	Valued @ 0 10 0 per cubic ft.
Pine do	152	3,661	1,144	5,531	108,571	33,928	32,784		Do @ 0 5 0 " "
Fancy woods	80	454	254	80	454	254	...	..	Do @ 0 9 0 " "
Broad-gauge Sleepers ...	15,034	52,199	37,585	17,201	58,236	43,003	5,418	...	Do @ Rs 2 8 0 each
Narrow-gauge do. ...	1,454	2,115	2 181	6,871	11,859	10,306	8,125	...	Do @ Re. 1 8 0 "
Deodar Scantlings ...	1,488	1,776	1,776	1,217	741	741	...	1,035	Do @ " 1 0 0 per cubic foot
Walnut do. ...	28	52	52	25	45	45	...	7	Do, @ " 1 0 0 " " "
Maple do. ...	283	512	512	202	509	509	...	3	Do, @ " 1 0 0 " " "
Other do. ...	4,289	3,237	4,177	2,862	4,101	4,101	...	76	Do @ " 1 0 0 " " "
Scraps and pieces	14	80	5	2,630	11,704	731	726	...	
Total timber ...	24,986	110,034	76,403	43,837	335,769	1,80,836	1,04,433	..	
1881-82 ...	15,865	147,390	85,751	24,986	110,034	76,403	...	9,348	
Bamboos	8,116	...	582	8,321	...	606	24	...	
Firewood, maunds ...	32,137	...	8,034	10,343	...	5,450	...	2,584	
Do. cubic feet ...	...	87,066	3,483	...	194,825	4,310	827	...	
Charcoal, maunds ...	4,927	...	4,927	3 841	...	3,841	...	1,086	
Total ...	45,180	87,066	17,026	22,505	194,825	14,207	...	2,819	
1881-82 ...	10,398	170,758	11,912	45,180	87,066	17,026	5,114	...	
	Total ...		93,429	Total ...		1,95,043	1,01,614		
	1881-82 ...		97,663	1881-82 ...		93,429	...		

Net difference in favor of the year, Rs. 8,185.

No. 789F., dated Simla, the 22nd October 1884.

From—A. MACKENZIE, Esq., Secretary to the Government of India,

To—The Junior Secretary to the Government of the Punjab.

I AM directed to acknowledge the receipt of your letter No. 4258., dated the 29th August last, forwarding the Progress Report of Forest Administration in the Punjab for the year 1883-84, with His Honour the Lieutenant-Governor's review thereof.

2. The changes in the areas under the management of the Department, which occurred during the year, were as follow:—

Areas.

Class of Forest.	Area in square miles.			
	At the commencement of the year.	Added during the year.	Excluded during the year.	At the close of the year.
Reserved Forests	1,228	170	...	1,398
Protected Forests	311	...	...	311
District Forests	3,155	1	246	2,910
Total ...	4,694	...	75	4,619

The increase of 170 square miles in Reserved Forests occurred partly in the Salt Range (125 square miles), and the rest (45 square miles) in Bashahr. The reserves comprise now—

	Square miles.
Upper Hill Forests	562
Lower Hill Forests	110
Plains' Forests, including rakhs	726
Total ...	1,398

Further extensions, amounting to 271 square miles, are now under consideration in Rawalpindi, and limited areas in Kulu. In the latter district it has been decided to create, in addition, first and second class Protected Forests, so that altogether four classes of forests will be established. The Government of India fears that this classification is too minute, but it will be best to let experience decide as regards the merits of the measures now inaugurated.

The changes in the area of the District Forests are chiefly due to transfers to Reserved Forests, to transfers to the management of district officers, and to corrections. The total result of all changes is a decrease of 75 square miles in the area under the management of the Forest Department.

3. The total area of Forest lands at the disposal of Government, and of lands over which Government has rights, seems to stand now as follows:—

	Square miles.
Reserved Forests	1,398
Protected Forests	311
District Forests	15,181
Lands in which Government has a right to trees	3,475
Lands in which Government can exercise Forest conservancy ...	564
Grand Total ...	20,929

In order to provide for all these lands the conservancy measures which may be required in each case, it has been decided to place the Forest Officers in the position of Assistants to the Deputy Commissioners; and this important measure is, after some years of discussion, now being carried into effect.

4. Of the total area of Reserved Forests, 630 square miles have been surveyed. The subject of surveying the remaining 768 square miles is receiving attention; but in some cases the work must be postponed, until it can be done in connection with settlement operations.

Surveys and Working Plans.

The Governor General in Council is glad to notice that, as suggested in the orders* on the Report for 1882-83, a separate Working Plans Division has been constituted. It is hoped that this will lead gradually to the formation of a regular statistical office, which will furnish the data upon which the working plans of the various forests must be based.

* No. 22F., dated the 14th January 1884.

5. The number of cases of breaches of Forest rules taken into Court was 968, and that of compounded cases 298, or a total of 1,266 offences. No comparison can be made with the figures of former years, as the number of cases compounded has now been given for the first time. The Courts disposed of 935 cases during the year, convictions being obtained in 722 cases, which represent 77 per cent. of the total number of prosecutions.

Protection of the Forests.

6. In paragraph 77 of the Report it is stated that "in the Muzaffargarh District Forest offences are not recognized, as there are neither reserves, protected, nor village forests, and the Penal Code is declared inapplicable by the Civil and Police authorities owing to the Chief Court ruling 22 of 1876; so that in a Government Forest property trees may be felled, girdled, lopped, tapped, or burnt, removed or sold without, in the district authorities' opinion, an offence being committed." If the facts as here quoted are correct, I am to ask how the present state of affairs has come about, and what steps it is proposed to take with the view of removing the apparent misconception on the part of the district authorities.

Grazing.

7. It appears that the areas closed against grazing were as follow:—

	Square miles.
Closed entirely	467
" during part of the year	78
" against camels, goats, and sheep	539
Total in 1883-84 ...	1,084
Area closed in 1882-83 ...	652
Increase in 1883-84 ...	432

The total area closed in 1883-84 represents 23 per cent. of the total area under the management of the Forest Department.

The Conservator states, in paragraph 107 of his Report, that areas closed from April to September and opened for the rest of the year yielded a larger revenue than in former years, when they were left open to grazing all the year round. This would tend to show that the total production of grass is increased by protection; and, as a similar fact has been noticed elsewhere, His Excellency in Council desires that special attention may be paid to the subject. If further experience verifies the present assumption, it is clear that periodical protection is in the interest, not only of Forest conservancy, but also of the cattle owners.

8. The sections of the Report which deal with cultural operations are exceedingly interesting, and show that these operations are approached in the right spirit. The remarks on the comparative importance of natural and artificial reproduction have been read with interest, and the conclusions arrived at commend themselves on the whole to the Government of India. Though the system of natural reproduction must be principally relied on for the present in the bulk of the Indian plains' forests, it cannot be overlooked that the special conditions of the Punjab plains and of the Himalayan forests demand special measures; and, as at present advised, His Excellency in Council is of opinion that, under such circumstances, artificial reproduction may usefully be employed on a larger scale than has hitherto been the case.

Cultural operations.

9. The results of artificial reproduction during the year, as far as they can be tabulated, were as follow:—

	Area in acres.		
	At the commencement of the year.	Added during the year.	At the close of the year.
Regular plantations	15,324	43	15,367
Other cultural operations	1,065	2,129	3,194
Total ...	16,389	2,172	18,561

The most successful operations were carried out in Kulu, where 136,000 nursery plants of deodar were planted out and 33 maunds of deodar seed sown over an area of 747 acres, while at the same time 49 new nurseries were started. These results are said to be without precedent in any hill division.

Yield of the Forests.

10. The quantity of timber received in depôts during the year was 81,073 cubic feet less than in the previous year, while the sales from depôts amounted to 87,386 cubic feet more. The local sales, on the other hand, were 52,293 cubic feet less. The removals from the forests by purchasers were considerably larger than in the previous year, and the free grants were less. The summary of all removals of timber and fuel from the forests seems to have been as follows:—

Description of produce.		In 1882-83.	In 1883-84.	Increase. In 1883-84.	Decrease. In 1883-84.
Trees and poles	No.	80,212	61,453	...	18,759
Firewood ...	Cub. ft. stacked.	4,548,965*	6,263,686*	1,714,721	...
Charcoal	Mds.	9,759	4,550	...	5,209
Bamboos	Pieces	787,759	699,381	...	88,378
Coal	Tons	354	317	...	37

On the whole, more produce has been removed during the year, which is due to the increased sales of firewood.

Imports of Timber.

11. The imports of timber into the Punjab have increased during the year, as will be seen from the following abstract:—

	In 1882-83.	In 1883-84.	Increase in 1883-84.
Deodar logs	28,547	33,246	4,699
Pine logs	1,799	3,310	1,511
Sleepers	273,883	296,366	22,483

* 1 Maund has been taken as equal to 4 cubic feet stacked.
1 Piece has been taken as equal to 2 maunds, or 8 cubic feet stacked,
1 Load has been taken as equal to 1 maund, or 4 cubic feet stacked,

12. The financial results compare as follow with those of the previous year—

Financial results

	In 1882-83.	In 1883-84.	Increase in 1883-84.
	Rs.	Rs.	Rs.
Receipts	7,66,710	9,10,177	1,43,467
Charges	5,60,751	6,53,146	92,395
Surplus	2,05,959	2,57,031	51,072

The considerable increase in both receipts and surplus is satisfactory.

13. At the request of the Government of the Punjab, the contract with the Durbar of Cashmere for the collection of unmarked drift timber on the Jhelum, under which the British Government received Rs. 4,000 annually as their share, was discontinued from the 1st April 1882; and, in consultation with His Honour the Lieutenant-Governor, it was decided to pay to the Maharaja of Cashmere a solatium of Rs. 60,000 for loss of revenue. From the accounts of the Jhelum Division, it appears that the receipts from drift timber during the last two years amounted to Rs. 83,028, while the expenses incurred on its account came to Rs. 35,359; so that, taking into consideration the balance of unsold drift timber in the Jhelum depôts, the sum paid to the Maharaja has apparently been almost completely recovered during the first two years of working under the new system. This is, no doubt, due to the more satisfactory arrangements made by the Forest Department for the salving of drift timber.

14. On the whole, His Excellency in Council has noticed with pleasure the progress which Forest Administration is now making in the Punjab, especially as regards the systematic working of the forests and their reproduction, and he is pleased to endorse the commendation bestowed upon Mr. Ribbentrop by His Honour the Lieutenant-Governor for his excellent Report. It is hoped that nothing will interfere with the speedy formation of a sufficient area of permanent Forest estates under the provisions of the Indian Forest Act.

General

15. In conclusion, I am to refer to the remarks made in paragraph 8 of His Honour the Lieutenant-Governor's review. The Government of India, in the orders* on the Report for 1881-82, pointed out that, when the Indian Forest Act was framed, it was understood that all forests, which it was intended to maintain permanently, would be constituted reserves. This statement was challenged by the Punjab Government in the correspondence on the subject of the Kulu Forests, and the fact was noticed in His Honour's review of the Report for 1882-83. The Government of India considered it out of place to enter further upon the subject in their orders on that Report, as it had already then been dealt with in a separate communication. In the present review the subject has, however, again been brought up; and, as it has been assumed that the contention of the Local Government has been unreservedly accepted, the Governor General in Council thinks it desirable to explain clearly the views of the Supreme Government.

* No. 1036F, dated the 15th December 1883

The assumption of the Local Government, as set forth in paragraph 8 of the review, is, I am to say, based on a misconception. The Indian Forest Act provides for the demarcation and conservation of two classes of State Forests, namely, Reserved and Protected. In the case of the former, full powers are given under which the estates can be thoroughly settled and efficiently protected, while the powers given for the settlement and conservancy of Protected Forests are less complete, though a good deal can be done under them. The Chapters of the Act

referring to these two classes of forests stand *side by side*, and it is nowhere indicated in the Act when one shall be followed and when the other; and from this fact it is clear that, whatever may have been the views of individual Members of the Legislative Council, the Legislature did not embody those views in the terms of the Act, which might easily have been done had it been considered desirable. The application of the one Chapter or the other to a particular group of forests is a matter of purely executive manangement, and therefore of policy. Considering that the provisions of Chapter II are more complete than those of Chapter IV, and that Forest conservancy can, under the former Chapter and by the orders of the Local Government, be made just as lenient as under Chapter IV, the Government of India has always held, and still holds, that, ordinarily, permanent Forest estates should be constituted under Chapter II, while areas regarding which it is as yet uncertain whether the whole or part of them are required for permanent Forest estates should be treated as Protected Forests under the provisions of Chapter IV. There may be cases where, for very exceptional reasons, a forest is retained permanently in the Protected category; but the general policy must, I am to say, be as now stated. I am to add that the Punjab is the only province where the correctness of this policy has been questioned. Most of the very forests in the North-Western Provinces, which were given as an instance in the speech in Council quoted by the Lieutenant-Governor in support of his view, have long ere this been constituted Reserved Forests under Chapter II of the Act without any difficulty, and with the best results.

Appendix showing the discrepancies noticed in the statements appended to the Report of Forest Administration in the Punjab for 1883-84.

FORM No. 50.

Plantations.

The total area of cultural operations on the 31st March 1884 comes to (from the addition of the figures given) 3,194 acres, and not 3,196 acres, as entered at foot of the column in question. The total of the "Abstract" of the Form under "total area on 31st March 1884" is consequently 18,561 acres, instead of 18,563 acres.

FORM No. 51.

Forest tracts protected from fire.

The area actually protected up to the end of 1882-83 in the Bakloh and Bannikhet Forests (Chamba Division) is entered as 103 acres *less* than the similar area given in Form No. 51 of the Report for 1882-83, the figures being, respectively, 1,817 and 1,920 acres. The area actually protected during the dry season of 1883-84 in the Shahpur Kandi Forest (Chamba Division) is 6,322 acres, and not 6,382 acres, as shown opposite the name of that forest in the column in question.

The totals of all the area columns are not given at the foot of the form.

FORM No. 60.

Timber and other produce received from the forests in sale depôts.

The corresponding cubic feet of the 5,640 "other scantlings" in the "Abstract of Circle" is 2,032, and not 2,036; and of the 21,074 "scraps and pieces" 21,768, and not 21,764.

The "number or quantity" of firewood under "Abstract of Circle" is 4,350 maunds, and not 4,109 maunds; while the "number or quantity" of firewood classed with the 2,118,099 cubic feet of that material is 207, and not 1,623. These (immediately preceding) discrepancies affect the entries under the following sub-heads, as well as the total of the firewood and charcoal portion of *Form No. 62* (timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally) :—

"Received from the Forests in depôts."

"Balance at close of the year."

FORM No. 61.

Sales of timber and other produce cut and collected by Government agency.

The "number or quantity" of bamboos (sold from depôts) under "Abstract of the Circle" is 687,979 pieces, and not 687,439 pieces.

This discrepancy affects the following sub-heads, as well as the total on the "Dr." side of the bamboos portion of *Form No. 62* :—

"Removed by purchasers"

"Balance at close of the year."

FORM No. 62.

Timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally.

The corresponding cubic feet of the 36,476 "number or quantity" of the timber balance at the close of the year (in the "Abstract" of the Form) is 229,025, and not 230,025.

FORM No. 65.

Value of timber and other produce at sale-depôts.

It is shown in this form that 334,680 cubic feet of firewood were on hand at the close of the year; but Form No. 62 shows a balance of 343,181 cubic feet of firewood at the close of the year.

Govt. C. B. Press, Simla.—No. 69) H. D.—23-10-84.—377.

Proceedings of the Hon'ble the Lieutenant-Governor in the Home Department, Forests, No. 420 S., dated 28th August 1884.

READ—

The Progress Report on the Forest Administration of the Punjab for the year 1883-84, received under cover of the letter of the Conservator of Forests No. 85 C. L., of 1st July.

Remarks.—THE views of the Lieutenant-Governor regarding the Forest Administration of the Punjab have been fully recorded in the Reviews of the last two years, and it will be sufficient to deal with the present Report more briefly. Personally Sir Charles Aitchison is of opinion that considerable reform is demanded in the matter of the bulky annual reports which are at present required of the heads of Departments and other officers, and he proposes to address the Government of India on the general question by an early date. But whatever conclusion may be arrived at regarding the desirability or undesirability of annual compilations, there is no good reason, in His Honor's opinion, why lengthy Reviews should be written from year to year on the contents of Reports which do not contain anything calling for the special notice of the Local Government.

2. The salient facts of the Forest Administration during the past year may be briefly summed up as follows. The area of reserved forests has been increased by 170 square miles, added in the Jhelum and Bashahr divisions. The area of protected forests has undergone no alteration, and still amounts to 311 square miles. Considerable areas will probably be added to both heads in 1884-85 in Simla, Kulu, Gujranwala, Rawalpindi and Lahore, in consequence of the orders which have been passed during the year under report on various forest questions in those localities, and possibly also in the Shahpur-Kandi tract and in the Siwalik range of the Hoshiarpur district. The establishment of the Department was unusually strong throughout the past year, and it is at present under contemplation to add the appointment of a Forest Officer in Biluchistan to the Punjab Staff. The Lieutenant-Governor notices with regret, that the first native Sub-Assistant Conservator of the Province, Babu Kirpa Ram, who was an officer of decided promise, died in the autumn of 1883. The number of forest offences rose from 903 to 908, of which nearly half consisted of unauthorised felling or appropriation of wood or of minor produce. The compounding of offences was confined apparently to cases of illicit grazing; the provisions of section 67 of the Forest Act seem to be worked somewhat unequally in the various divisions. The area affected by fires was much the same as in the previous year, *viz.*, 30,000 acres; but the actual number of fires was considerably less than in 1882-83. The area closed against grazing was larger than heretofore, especially as regards areas forbidden to camels, goats and sheep. Advantage should invariably be taken of seasons of good rain-fall to secure a period of rest for such grazing areas as the Deputy Conservator and Forest Officer may consider can be properly closed. The report on the grazing arrangements of the various forest divisions has been submitted by the Conservator to the Financial Commissioner, and will no doubt shortly be forwarded to the Local Government. Until fencing is more completely carried out it will necessarily continue to be difficult to prevent many of the present forest offences. The closer association of District and Forest officers will, however, doubtless cause an improvement in this respect, and meanwhile the instructions contained in paragraphs 8-9 and 4 of the Reviews of 1881-82 and 1882-83, should be fully complied with. The scheme drawn up by Mr. Ribbentrop for the association of District and Forest officers has received the preliminary approval of the Lieutenant-Governor, and the details are now being worked out conjointly by the Financial Commissioner and the Conservator. The question of framing a set of rules for the management of rakhs held by the Military Department in the Punjab has been submitted for the consideration of His Excellency the Commander-in-Chief. It should have been noticed in the Review of last year that it has been determined to incur no further expenditure on the afforestation of the Peshawar Jhil.

3. The preparation of working plans and the completion of the surveys of forests has recently been secured by the formation of a Working Plan division. By this means the somewhat unsatisfactory state of things shown by the statistics

given in paragraph 40 of the Report, will doubtless be greatly improved during the next few years. It is most desirable, as pointed out by the Conservator, that atlases of all forests should be available in the offices of the Local Officers and at the headquarters of Government; and it is even more important that working plans, however rough in the first instance, should be drawn up to guide officers in the exploitation of forest areas. The subject of annual plans of operations, to which attention was drawn by the Government of India in their letter No. 22 F., of 14th January last, will receive fuller treatment in future reports.

4. The account given by the Conservator of natural reproduction, cultural operations and forest improvements in Parts 5 to 7 of Chapter III, is exceedingly interesting and valuable, and the Lieutenant-Governor is glad to see that Mr. Ribbentrop has turned his special attention to these subjects. His Honor is, however, of opinion that it will be unnecessary to deal at length every year with this portion of the general question of forest administration. The results of the above operations can seldom be gauged by the experience of a single season, and there is some danger that, if they are formally recorded and commented on from year to year in the Provincial Report, misconception may arise regarding their real nature and extent. As the Conservator has expressed an opinion that the information furnished by certain Deputy Conservators on the present occasion is not in all respects satisfactory, there will be no objection to the full treatment and completion of these sections in the Report of next year; but after that any lengthy notice of results may well be deferred till the Report of 1887-88. The progress of natural reproduction appears to have been fair on the whole, and as far as it depends on the exclusion of grazing from selected areas, considerable development in this respect may be looked for in future. Of late years cultural operations have perhaps, for various reasons beyond the control of Forest officers, not always received the attention which they demand; but now that systematic operations have been started again, more important results may be looked for from them. The Lieutenant-Governor notices with satisfaction the progress made in this matter in the Chamba, Beas and Bashahr divisions, and in the Pabbi Reserve.

5. Experiments made with exotic trees do not call for any special notice. The results obtained in the Lahore Division show that with care the carob tree and many of the species of *Eucalyptus* can be successfully cultivated in the plains. Some seed of the *Eucalyptus Viminalis* was procured and sown during the year, but it is too early to speak of the result yet. The Conservator is of opinion that the edible chestnut is well suited for the climate of Bashahr.

6. The number of trees felled during the year was 5,600, as against 7,200 in 1882-83. Of these 5,000 were deodar. Sales from the Government depôts amounted to 87,000 cubic feet more than in the previous year, the balance on the 31st March 1884 being 230,000 cubic feet as compared with 335,700 cubic feet on 31st March 1883. The grants of forest produce free of payment show a decrease of 14,249 trees. As soon as the forest settlements in Kulu and Rawalpindi have been completed, it may be expected that the free grants from these areas will gradually be reduced. The Lieutenant-Governor agrees with the Conservator that the wasteful system by which small logs are rolled into side streams and left to find their way down in the course of years should be abandoned as far as possible.

7. The financial results of the working of the year have been very satisfactory in spite of an unexpected payment of Rs. 60,000 made to the Kashmir Darbar under the orders of the Government of India as compensation for the abolition of the old system of the collection of waif timber on the Jhelum River. The net surplus was Rs. 257,031, the receipts of the year being Rs. 9,10,177, and the expenditure Rs. 6,53,146. The value of the year's transactions was Rs. 2,18,457. The sum spent on the formation, improvement and protection of forests was Rs. 1,86,968, or slightly more than one-fifth of the gross receipts. The outstandings on account of contractors and liabilities were reduced in all divisions except Chamba, in which the large sum of Rs. 20,000, representing principally advances made on

account of an important slide which is being constructed in that division, remains to be adjusted. The outstandings on account of revenue continue large ; but it is understood that these are to some extent nominal rather than real, the whole sum, for instance, offered by a contractor for a lease being entered in the accounts as soon as the lease is made, although payments may be due by fixed instalments only.

8. In paragraph 11 of the Review of last year, it was stated that the Lieutenant-Governor had been obliged to challenge the statement of the Supreme Government that, when the Indian Forest Act was framed, it was understood that all forests which it was intended to maintain permanently would be constituted reserves. The reasons why Sir Charles Aitchison was unable to accept that assertion were fully stated in the correspondence on the subject of the Kulu Forests ; and as the contention of the Local Government was not impugned in the final orders issued on that question by the Government of India, it is understood that it has been unreservedly accepted.

9. In conclusion, the Lieutenant-Governor desires to record his acknowledgments to Mr. Ribbentrop for his Report, which is an excellent one, and was submitted with great punctuality. His Honor trusts that it will be possible next year to add a map showing the general disposition in the Province of the areas under the control of the Forest Department.

Order.—Ordered that the above Review be printed and circulated with the Report as usual.

Also that it be published in the *Punjab Gazette.*

Also that it be forwarded to the Government of India, in the Home Department, with the usual number of copies of the Report.

By order of the Hon'ble the Lieutenant-Governor,

C. L. TUPPER,

Offg. Secretary to Government, Punjab.

Punjab Government Secretariat Branch Press, Simla,—8-29-84—400.

No. 85 C. L., dated 1st July 1884.

From—B. RIBBENTROP, ESQUIRE, Conservator of Forests, Punjab,

To—The Junior Secretary to Government, Punjab.

I have the honor to submit the Annual Administration Report of the Punjab Forest Department for 1883-84.

TABLE OF CONTENTS.

	Para.
INTRODUCTION	1
CHAPTER I.—AREAS AND BOUNDARIES	11
CHAPTER II.—SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS	40
CHAPTER III.—PROTECTION AND IMPROVEMENT—	
1. Establishment	63
2. Breaches of Forest rules	68
3. Forest fires	81
4. Grazing and fencing	93
5. Natural reproduction	109
6. Cultural operations	121
7. Forest improvement	139
8. Exotic and European trees	139 A
9. Communications and Buildings	140
CHAPTER IV.—YIELD AND WORKING—	
1. Departmental operations	150
2 Removal of produce by purchasers	171
3. Free grants of forest produce	177
4. Summary of produce removed from the forests ...	179
5. Imports and Exports of timber	180
CHAPTER V.—FINANCIAL RESULTS	182

Statements exhibiting the Annual Accounts.

Form No. 49.—Area of Reserved Forests.
" " " — " of Protected Forests.
" " " — " of Unreserved Forests.
" " 50.— " of Plantations.
" " 51.— " of Forest tracts protected from fire.
" " 52.—Prosecutions for breaches of Forest rules.
" " 53.—Summary of Revenue and Expenditure.
" " 54.—Account Current.
" " 55.—Outstandings and Liabilities on account of contractors and disbursers.
" " 56.—Revenue received and Outstandings on account of Revenue.
" " 57.—Financial results
" " 58.—Trees felled.
" " 59.—Outturn of timber and other produce cut and collected by Government agency.
" " 60.—Timber, &c., brought to Depôt.
" " 61.—Timber, &c., sold from Depôts and locally.
" " 62.—Timber account of the year.
" " 63.—Timber and other produce cut, collected and removed from the forests.
" " 65.—Abstract showing the value of timber and other produce at Sale Depôts.

Appendices.

Map of Pabbi Reboisment Area ... ... A
Table showing progress in demarcation ... ... B

PROGRESS REPORT
OF
FOREST ADMINISTRATION IN THE PUNJAB
FOR THE YEAR 1883-84.

INTRODUCTORY REMARKS.

A report on the project of bringing Forest Officers into closer connection with the officers in charge of the districts has been submitted during the year. The proposal to make the Forest Officers subordinate only to the Commissioner of the Division was given up as untenable, and a very close connection between the District Forest Officer and Deputy Commissioner of the District, based on the subordination of the former in regard to all forests, even reserves, was submitted, and received the sanction of the Local Government, as far as the principle of the proposal was concerned. The detail of the scheme is to be worked out by the Financial Commissioner in consultation with the Conservator of Forests.

The scheme touches on a financial question as far as it treats all Government waste-lands, the income of which as yet reaches the treasury by different channels, as one property, and proposes to place them under one administration. It requires, therefore, the consideration of the Government of India, and has been submitted.

It will be quite impossible to provide, if the scheme is carried out in its entirety, which it must be sooner or later, an officer of the superior staff for every civil district. Such officers expect sooner or later to rise to a Deputy Conservatorship and thereafter to Deputy Conservatorships of the higher grades, and though rich Provinces like Burma, Bengal and Bombay may be able to pay for this, this is not the case in the north-west of India.

I pointed out last year that for the above reasons it would be necessary that the number of Sub-Assistant Conservators should be increased.

I maintain still that this will be extremely desirable and ultimately necessary ; and I beg now to add a few remarks on the advisability of creating as soon as possible a class of upper subordinates to be recruited entirely through the Indian Forest school, which may be visited either at Government expense or at that of the candidate himself. This upper subordinate class should be quite separated on the one side from the superior staff which will at no distant time be officered from an English Forest school, and only under very exceptional circumstances and by the most marked personal excellence should the Rubicon between the two branches be passed. On the other hand, this upper subordinate class should be placed on a footing somewhat superior to the present status of Forest Rangers, which would be only in accordance with the demands made from them with regard to general education and training. This improvement should take place both with regard to their social status and pay, which I think might at present fairly be fixed at a maximum of Rs. 300, which is more than the pay on which officers of the superior staff begin their career. With the prospects towards an improved social status and appointment, varying between Rs. 40 and Rs. 300, I have no doubt that the Forest school and Forest career will be able to secure the services of some of the very best native youths the Province produces both as regards birth and education.

2. The arrangements made with the Kashmir Darbár regarding the collection of drift timber on the Jhelum river worked this year to the advantage of Government—thanks to our better organization which brought us very much sooner into the field. I believe Kashmir secured only a very small percentage of the drift timber, their arrangements being about completed by the time the floods were over.

3. The Kashmir Darbár has promulgated a set of river rules. They are in most respects a *facsimile* of our own rules, with the exception that all fees

are much higher. A most extraordinary provision, however, is a rule which fixes a tax upon the earnings of contractors, a great portion of which is always paid for work done in British territory. My river officers are very indignant regarding these rules and prognosticate all sorts of difficulties, but as yet the local "Maháldárs" have only announced that timber belonging to the British Government floating on the Kashmir side of the stream, Jhelum or Ravi, would be liable to duties and fees prescribed under their rules. This demand is of course ridiculous and has never been enforced. The only place where a possible demand might be made is on the Chenab between Aknoor and the Frontier, and even here our timber has not as yet been interfered with.

In my opinion it would be premature to protest against the Kashmir River Rules, till they virtually and unjustly annoy us, simply because they are faulty in principle and badly framed.

4. Our relations with Mandi regarding waif on the Beas are approaching a final settlement. The Rája has accepted all our conditions, and all that remains to be done is the execution of a formal lease.

The Rája of Mandi has been addressed by the Commissioner on the frequent occurrence of forest fires, and we received the assurance from the Wazír of the Rája of Mandi "that the question of forest conservancy is receiving and will receive his anxious consideration, and that fires have been prohibited over and over again, and that every effort is made to discover the authors of such occurrences, but that the matter is avowedly one of considerable difficulty."

The forests in the Mandi State have been leased to a trading company, and one of the most admirable conditions of their lease is that the trees felled shall be replaced by deodár seedlings; but this I am informed does not take place.

5. Each winter the Chiefs, through whose territory the Sutlej flows, collect waif on the banks of the river which is examined by the Divisional Officer as he comes down the stream. This year the collection of fire-wood was passed in Bhajji, Shungri, Mangal, Suket, Mandi and Kulu. In Beláspur, however, the collection exceeded in quantity and dimensions anything that had ever been passed in former years, under the rules laid down in Government Notification No. 322 F, dated 9th May 1879, and Mr. Minniken had the timber marked, measured and relaunched. The Rája at first complained strongly, but afterwards expressed his regret that his people should have, unknown to him, transgressed his strict orders. This will doubtlessly have a good effect on all the smaller territories on the Sutlej.

6. In paragraph 8 of my last year's report I mentioned the claim of the Khán of Makhúd, and I now find that in 1865 the Deputy Commissioner proposed that the Khán of Makhúd should manage some rakhs in the Rawalpindi District which were at that time considered beyond the control of any Government official, and that he should receive on this account one-fourth of the income. These rakhs lay on the Indus, and without further authority the Khán extended his management to the river, levying a quarter also on the value of all logs salved by him.

The logs brought down by the Kabul river are thrown into the river by the Hill people in Swat for a very small remuneration, and the importers realize large profits by their sale, and rather than bear the expense and trouble of disputing the Khán's claims they paid the exorbitant fee. Most probably also they thought that the Khán was legally entitled to demand it. The question is now settled.

7. The Rája of Delti sold during the year a Bashahr forest to a European capitalist in Lahore. 480 trees were felled before it was discovered, when further fellings were stopped and the orders of Government solicited.

The wholesale snaring and shooting of pheasants in Bashahr, which are protected under the Government lease, is only prevented with the greatest difficulty, and there is no doubt that it is encouraged by Europeans.

8. The forests in British Bárá Baghál were examined by Mr. McDonell, the Divisional Officer, and a very interesting report was submitted. The Chamba

State forests, those either specially reserved under the lease, or not as yet selected, were also examined. They, with the exception of the specially reserved ones, contain but little deodár, but the reproduction in the outlying chíl forests is favorably noted. The Kajiar forest is a magnificent deodár forest situated in the most favorable locality and carefully worked as an ornamental wood. The Divisional Officer constantly assists in the administration of these State forests at the request of the Superintendent.

9. At my first visit in Chánga Mánga I saw the widely spread undergrowth of mulberry, for which we had no market. The natural idea was to utilize the leaf crop for sericulture. I had read that numerous failures in sericulture were caused by the food not being ready when the worms came out, and knew that with watering I could force a very early crop of leaves under the cover of full-grown trees. Japan silk-worm eggs were obtained, and under Mr. Lemarchand's care the experiment proved an unqualified success. The experiment was made on a small scale, but we have sufficient food to extend it a hundredfold. Our experiments with ensilage were not so successful. We fed some cattle with nothing but the outturn of the pits, and they lost but little in condition, but it was rather expensive feeding.

10. The rainfall of the year was distressingly small and worse distributed. We had no good floods, and the long break between July and September was the greatest trial cultural operations could possibly undergo.

CHAPTER I.—AREAS AND BOUNDARIES.

Reserves.

11. The area of demarcated reserves has been increased during the year by 170 square miles as may be observed from the following abstract of form 49 :—

Divisions	Area on 1st April 1883	Added during the year	Excluded during the year	Deducted on account of faulty estimate	Total
	Sqr. miles	Sqr. miles	Sqr. miles	Sqr. miles	Sqr. miles
Hazára	236	...	...	...	236
Rawalpindi	104	...	...	...	104
Chamba	196	...	...	...	196
Beas	60	...	...	...	60
Bashahr	135	45	...	...	180
Jhelum	183	125	...	...	308
Gujránwála	77	...	...	...	77
Lahore	38	...	...	...	38
Mooltan	197	...	...	...	197
Phillour	2	...	...	...	2
Total ...	1,228	170	...	...	1,398

The area of forests constituted reserves under Chapter II of the Forest Act amounts at the end of the year to 1,022 square miles, and 376 square miles have been selected under the leases made with the Rájas of Chamba and Bashahr. The total amounts therefore to 1,398 square miles at the end of the year ; the areas added during the year which were constituted reserves under the Act, amounting to 125 square miles, can, though situated in the Salt Range, as yet be classified only as rakhs on account of their vegetation. The areas added under leases, aggregating 45 square miles, are situated in the higher hills. If therefore classified according to their position we find at the end of the year—

				Square miles.
Upper hill forests	...	...	...	562
Lower „ „	...	...	...	110
Plains forests and rakhs	...	...	...	726
		Total	...	1,398

12. *Hazára Division.*—The area of the State reserves in the Hazára Division remains unchanged. The reserves are distributed over the ranges in the division as follows :—

Dungagali	...	...	...	63 square miles.
Kághan	...	...	...	90 „
Siran	...	...	...	33 „
Khánpur	...	...	...	50 „

The district contains 1,440 square miles of waste-land, and it will therefore be found that only 16 per cent. of the whole waste is reserved on the part of Government, and that 1,204 square miles, or about 84 per cent., are formed by village forests and open wastes under district management.

No orders had, up to the end of the year, been received to transfer the military locations to the military authorities. These orders have, however, since come to hand.

13. *Rawalpindi Division.*—There has been no alteration in the areas of reserved forests in the Rawalpindi Division. The forest settlement forms part of the general settlement of the district, and consequently but slow progress can be expected, but I am satisfied, as far as I can at present judge, that as regards the Forest Department most satisfactory results will be arrived at in the end.

It may be forecast that 22 reserves containing about 51 square miles will be obtained in the Murree tahsíl, and 24 reserves with some 49 square miles in the Kahuta tahsíl.

During the year Rs. 3,627 were paid as compensation in the Murree tahsíl and Rs. 4,158 in the Kahuta tahsíl, and it is anticipated that Rs. 17,000 will cover the balance of awards to be paid, leaving last year's forecast unaltered. It is reported that in the Murree tahsíl the compensation awarded was refused in 92 cases, and in 68 cases in the Kahuta tahsíl, and that at present ten of these cases were referred to the Court under Section 15 of the Land Acquisition Act.

The Kala Chitta protected forest, containing 171 square miles, has been gazetted under Section 4 of the Forest Act with a view of its being formed into a reserve.

14. *Chamba Division.*—There has been no change in the actual area of forests reserved.

The Divisional Officer wished to reduce the area recorded by 10 square miles, but, as most of the figures are based on estimates only, quite unsupported by any survey, I have refrained from making any alteration. The area it is proposed to reserve in Shahpur Kandi amounts to 8,882 acres only out of a total forest area of 80,000 acres in which Government has a right to the trees, but no further advance has been made in the settlement of this question, the legality of our procedure being still under consideration.

A reserve of 8,800 acres only can hardly have any very marked effect on the underlying country.

15. *Beas Division.*—The area of reserves in this division remains unaltered. The principle according to which the forests in the Kulu valley are to be reserved was finally laid down and is contained in Punjab Government letter No. 511, dated 28th November 1883, to the Financial Commissioner. It is therein ordered that the bulk of the forests be reserved under Chapter IV, and that only specially selected forests should be dealt with under Chapter II.

In consequence of these orders 4,976 acres have been picked out in Kulu proper, and 6,260 acres in lower Seoráj, to be reserved under Chapter II; the selection, however, was not quite complete at the end of the year.

Some of the reserves selected are extremely valuable, but others are situated on very steep slopes, or in localities which, on account of their position or clayey soil, are not particularly well suited for deodár forests.

16. *Bashahr Division.*—During the year 45 square miles were added to the area of reserves selected under the lease, distributed over the different ranges as follows :—

Tranda	...	...	...	12	square miles
Kilba	...	...	...	5	„
Kailas	...	...	...	22	„
Pandrabis	...	...	...	6	„

Only a small portion of these reserves was taken up as deodár forest, another on account of its facilities for conversion into deodár, but the bulk selected during the year has been reserved in order to protect the people from invasion by foreign herds, and to secure their forests of edible pine in which reproduction if left unprotected is almost *nil*, and which are by no means required for grazing.

17. *Jhelum Division.*—During the year 125 square miles have been added to the area of reserves, of which 18 square miles are situated in the Jhelum tahsíl, comprising rakh Phadial, formerly under the Forest Department, but as an unreserved forest. The rest, 107 square miles, consists of 13 rakhs in the Pind Dádan Khan tahsíl, all situated in the Salt Range, and one insignificant bela of 11 acres on the Jhelum river. The settlement of reserves in the Jhelum district is so far completed, and all rakhs and belas now under the control of the Forest Department are State reserves.

18. *Gujránwála Division.*—Bela Thatta Faqirulla has, in consequence of a change in the course of the river, increased by some 300 acres, but I doubt the advisability of constantly altering our area statements till such change has proved to be of a somewhat permanent character.

With reference to the proposed reserves mentioned in paragraph 18 of last year's report, a draft notification signed by the Forest Settlement Officer was duly submitted, but, owing to the commencement of the Chenab Canal, Government have decided in their No. 127, dated 11th March 1884, that it is not expedient at present to create reserves under Chapter II of the Forest Act on any land irrigable from the proposed Rámnagar canal.

New notifications have since been submitted by which 37,747 acres, the unirrigable portion of the rakhs, have been proposed as reserves, the remainder 17,200 acres as a protected forest.

In the Gujrat civil district no alteration has taken place in the area of reserves.

19. *Lahore Division.*—Twelve acres have been added to the area of the Jugián-*cum*-Shahdara reserve by the action of the river. The existing reserves may be classified as—

Bár lands	...	...	20,500	acres, or 32	square miles
Sailába	...	...	4,349	„ or 6	„

These latter are all situated in the Lahore and Sharakpur tahsíls of the Lahore District. They are particularly valuable, as they are easily stocked with trees and cost much less in maintenance than artificial cultivation on bár lands.

Two encroachments on reserved areas were discovered during the year, and promptly rectified.

Mr. Dane's report on the state of cultivation in the rakhs was received during the year, but no civil officers being available nothing further was done to settle the rights of cultivating tenants, nor with regard to the selection of areas for fuel or fodder reserves.

20. *Mooltan Division.*—No extension has taken place in the areas of reserves. I visited the Muzaffargarh District during the cold season together with an Assistant Conservator of Forests drawn from the Gujránwála Division. No final report has been as yet submitted, the maps not having been completed.

21. *Phillour Division.*—The draft notification required under section 4 of the Forest Act was submitted to the Financial Commissioner with regard to the Kalesar forest on the 31st of January last.

22. In the Simla District a forest settlement was made by Colonel Wace, the Settlement Commissioner, by which Government will acquire 1,628 acres of reserves in Kotgarh and 7,190 in Kotkhai, one-half of which area will be free of rights. I have paid compensation amounting to Rs. 2,528-11.

The question rests, I believe, with the Financial Commissioner, to whom Colonel Wace's settlement report was submitted in December 1883.

PROTECTED FORESTS.

23. No alteration has taken place in the area of protected forests. They still amount to 311 square miles, of which 171 are situated in the Rawalpindi District and 140 in the Gujránwála District.

24. In the Rawalpindi Division it is proposed, as already mentioned above, to transform the Kala Chitta protected forests into a reserve or reserves. In the Kulu sub-division 21,271 acres, or 33 square miles, have, up to the present, been selected for the formation of first-class protected forests. Besides these protected forests of the first class, protected forests of a second class have been selected in the Kulu valley, the area of which it is estimated will amount to some 350 square miles. The selection of forest areas has not as yet been completed in Wazír Rupi.

25. The formation of 17,200 acres, or 27 square miles, of protected forests has been proposed in the Gujránwála District. This area had originally been proposed as a reserve, but as it falls within the sphere of the Rámnagar irrigation scheme Government have decided that the rakhs should only be created a protected forest.

26. It was expected that the transfer of the Jhang forests to Gujránwála civil district would take place during the year, but owing to the uncertainty which of the several lines laid down as their southern boundary should be regarded as the final one, the matter was referred to Government. It was decided that the old boundary should be followed except near the village of Shahkot, where it is to bend so as to leave the village half a mile from the rakh boundary. Masonry pillars mark this boundary, but as several of them are 5 miles apart, the boundary had to be laid down between them and marked by trenches. This was only completed in the end of the year, as the Divisional Officer had nobody at the time he could depute for the work, and had to wait till he could go out himself.

UNRESERVED FORESTS UNDER THE CONTROL OF THE FOREST DEPARTMENT.

27. The areas of unreserved forests under the control of the Forest Department have decreased by 245 square miles, due to the following causes: 125 square miles have been formed into reserves in the Jhelum Division, and in the same division 55 square miles have been retransferred to the district authorities, being honeycombed by cultivation and settlements, and 15 square miles were struck off by correction of areas during the recent Jhelum Settlement. In the Gujránwála Division one square mile was added by river action, and 3 square miles were given away in grants in the Mooltan Division. The Kalesar forest always figured in the return at 50 square miles, and is now found to contain 18 square miles only, so that 32 square miles are lost by this correction; and, lastly, 16 square miles have been struck off as unreserved forests in Chamba, Government having no lien on them under the lease.

28. During the last camping season it was discovered by the Divisional Officer in the Lahore Division that settlements were forming in our unreserved rakhs. This might have become a danger to complete control over these rakhs, and at some future time have affected the very area of Government property by the acquirement of rights. The history of these settlements is that in such rakhs where zamíndárs and others had been allowed to graze their cattle, either under contract or on tirni, they had built themselves huts of grass and mud, and constructed cattle-sheds. These were at first of the most temporary character, but since then people always returning to the same rakh have made themselves more comfortable, and these huts are now never pulled down and are rarely unoccupied, and have been added to year by year. The majority of these settlements have been started within the last six or seven years by villagers whose cattle have increased to such an extent that they have been obliged to almost

permanently remove from their original villages. They bring their families out into the rakh during the winter, and only send them back to their parent villages during the hot season. These settlements have now in the Lahore Division all been carefully measured up, and a ground rent of one rupee per ghumao is levied from the occupiers, and an agreement is taken from them stating that they have no right or claim to the land, and that Government may turn them out at any time without compensation. I have since made enquiries and find that the same danger is present in other districts. The danger of course increases as the grazing is more and more disposed of locally to approved headmen of villages, &c. The Government Advocate is being consulted as to the form of an agreement under which any building or well, which may be erected or constructed in a Government rakh for the convenience of graziers, shall never become the property of the builder or occupier, and under which he shall never be entitled to any compensation on account of such building or well.

We ascertained also during the year that some 220 acres of Government rakh land in the Lahore and Amritsar Districts were occupied rent-free by water-courses conveying water to the fields of the neighbouring zamíndárs. The matter was referred to the Financial Commissioner, and it was decided that an annual rent should be levied, but that a detailed enquiry should be made by the Forest Officer and Deputy Commissioner, and that each case should be decided on its own merits. The result of this enquiry has not reached me as yet.

Summary of forests under Government control.

29. The total area of forests and rakhs at present under the control of Government will, as far I can ascertain them, be found in the statement below; which includes, as you will observe, such village wastes and jágír forests in the management and conservancy of which Government has a right to interfere, and such lands in which Government is owner of the trees or certain species of trees. It is to be hoped that this statement will be rendered every year more complete and accurate, and that finally a column will be added containing all private and village forests and waste-lands.

Summary of lands at the disposal of Government in each District.

Districts	Total area at disposal of Government	Reserved Forests	Percentage	Protected Forests	Percentage	Village Forests	Percentage	Unreserved Forests	Percentage	Forests and waste-lands under district management	Percentage	Lands belonging to other parties in which Government has a right to trees	Percentage	Lands belonging to other parties in which Government can exercise conservancy	Percentage
Delhi ...	2	...	...	...	...	...	...	...	...	2	100	...	...	...	...
Gurgaon ...	1	...	...	...	...	...	...	...	...	1	100	...	..	...	...
Karnál ...	1	...	..	...	...	...	...	...	...	1	100	—	...	...	...
Hissar ...	8	...	...	...	...	...	...	...	...	8	100	...	...	...	...
Rohtak ...	8	...	...	...	...	...	...	...	...	8	100	...	...	...	...
Sirsa ...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Umballa ...	22	¼	2	...	...	...	...	18½	84	3	14	...	...	...	...
Ludhiána ...	¼	¼	100	...	...	...	...	...	...	...	...	...	...	...	...
Simla ...	214	180	84	...	...	...	...	34	16	...	...	...	...	...	...
Jullundur ...	2½	1	40	...	...	...	...	½	20	1	40	...	...	...	...
Hoshiárpur ...	458	25	5	...	...	...	..	66	14	4	1	300	66	63	14
Kángra ...	1,162½	33	3	...	...	...	...	460	39½	½	...	168	14½	501	43
Amritsar ...	368	4	1	...	...	...	...	...	...	...	...	364	99	...	...
Gurdáspur ...	219	197	90	...	...	...	...	...	...	1	...	21	10	...	...
Siálkot ...	½	...	...	...	...	...	...	...	...	½	100	...	...	...	...
Lahore ...	1,781	35	2	...	...	...	...	322	18	6	½	1,418	79½	...	...
Gujránwála ...	250	2	1	140	56	...	...	96	38	12	5	...	...	...	...
Ferozepore ...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...
Rawalpindi ...	905	104	11	171	19	...	...	374	41	256	28	...	...	...	...
Jhelum ...	400	308	77	...	...	...	...	...	...	92	23	...	...	...	...
Gujrat ...	83½	75	90	...	...	...	...	8	10	½	...	...	...	...	...
Shahpur ...	1,250	...	...	...	...	...	...	434	35	816	65	...	...	...	...
Mooltan ...	2,858	110	4	...	...	...	...	57	2	2,691	94	...	...	...	...
Jhang ...	3,587	...	...	...	...	...	...	129	4	3,458	96	...	...	...	...
Montgomery ...	3,473	87	3	...	...	...	...	771	22	2,615	75	...	...	...	...
Muzaffargarh ...	487	...	...	...	...	...	...	89	18	398	82	...	...	...	...
Dera Ismail Khan ...	1,277	...	...	...	...	...	...	...	...	1,277	100	...	...	...	..
Dera Gházi Khan ...	381	...	...	...	...	...	...	29	8	352	92	...	...	...	...
Bannu ...	153	...	...	...	...	...	...	...	...	153	100	...	...	...	...
Pesháwar ...	1	...	...	...	...	...	...	1	100	...	...	...	.	...	...
Hazára ...	1,440	236	16	...	...	...	...	...	...	...	...	1,204	84	...	...
Kohát ...	141	...	...	...	...	...	...	..	...	141	100	...	...	..	...
Total ...	20,929½	1,398	...	311	..	...	...	2,889	...	12,292½	...	3,475	...	564	...

In some 38 square miles of our forests the right to fodder grass for horses and cattle has been granted to the Military Department. Of these, 21 square miles of as yet unreserved forests are situated in the Lahore Division, and 17½ square miles, part of the Margálla reserve, in the Rawalpindi Division.

It was, I feel convinced from a study of former correspondence, the original intention that an area should be secured from which the regimental grass-cutters could always supply the demands of their regiments, but the rights granted to the Military authorities were not at the time laid down with that precision which is desirable in such cases, and periodical disagreements have ever since taken place between the Forest Department and the Military authorities. Last year a considerable area of forest land in the Rawalpindi Division was leased out by the Military authorities for grazing to contractors, who on account of such concession delivered grass at the stables. The matter has been referred to Government. In the Lahore Division the Military authorities question periodically the right of the Forest Department to dispose of kana, munj and other minor forest produce. These constantly recurring disputes cost time and trouble to everybody concerned, and a concise and authoritative statement of the concessions granted to the Military Department in each rakh is required.

2. Boundaries.

30. *Hazára Division.*—On the 1st of April 1883 the demarcation in the Dungagali and Siran ranges had been completed.

In the former 63 square miles had been demarcated with 2,267 pillars at a cost of Rs. 8,443, and in the latter 33 square miles with 505 pillars costing Rs. 2,637.

In the Khágan range 51 square miles had been demarcated up to that date with 665 pillars at a cost of Rs 3,236, leaving a balance of 39 square miles to be demarcated. It was stated in last year's report that the work would be finished in the season of 1883-84, but on account of the opposition of the Sayads, who would not permit some of the pillars to be built, 30 pillars still remained to be erected at the end of the year, 553 having been put up during the year. The matter was handed up to the Civil authorities, but in consequence of changes that took place among Deputy Commissioners the question was not finally settled.

A great deal of trouble has been experienced in the permanent demarcation of the reserves in the Hazára Division.

At the time of settlement and survey temporary boundary marks were built, which ought to have been then and there replaced by permanent pillars, but were not. The system of handing over incompletely demarcated reserves was bad; the neglect of the Forest Officer in not at once replacing the stone heaps by permanent pillars is to be regretted This has now been settled, but the consequence of the delay was, that these temporary marks were, in many instances, pulled down by the villagers, Colonel Batchelor says with the knowledge of the patwáris, and that ground had been cultivated within the boundaries of the reserves.

The position of 141 permanent boundary pillars was still under dispute at the end of the year, but the Deputy Conservator of Forests has arranged with the Deputy Commissioner of the district to visit the disputed pillars and to settle the matter finally.

The present permanent demarcation has, I believe, caused some slight discontent in Hazára. The villagers had imagined that they had successfully hoodwinked Government and got some land from the original reserves; they now find that the boundary marks as altered by them are not accepted, though they have been allowed to remain for some years, and they are dissatisfied just as they were a few years ago when Government closed the reserves against grazing, after they had been allowed to remain open for some years subsequent to the settlement.

During the year 1,200 permanent pillars in the Khágan range have been numbered, 144 have been repaired, and 9 pillars that had been destroyed have been rebuilt.

31. *Rawalpindi Division.*—Masonry pillars were put up round the area awarded to Pír Sadr Dín as a grazing-ground. The boundaries of the reserves and protected forests in the division were inspected during the year, and pillars were counted and marked where necessary. Pillars around private lands in the Margálla, Khairi Murát and Kawagarh reserves, and in Kala Chitta, were white-washed and numbered.

The demarcation of the proposed reserves and protected forests is in charge of the Forest Settlement Department, and progresses most satisfactorily. The permanent boundary pillars are being built by them, and will be attested after completion to prevent a repetition of the difficulties which arose in the Hazára Division.

In last year's report it was brought to notice that the permanent demarcation of the Rawalpindi reserves carried out previous to 1881 was faulty, and faulty to such an extent as almost to preclude the idea that it could have been due to an accident, or want of knowledge on the part of the subordinates who were entrusted with the work. The Settlement Commissioner and myself agreed upon a procedure under Section 34 of the Act, but the question has not as yet been settled.

32. *Chamba Division.*—It is not possible to give accurate figures regarding the boundary lines completed in this division, as none of the forests have been surveyed (except Kálatop and Banikhet), but the following figures are taken from the sketch maps, and are as correct as they can be given :—

Pangi.—Complete, 213 pillars.

Bhandal Valley.—All complete, 1,830 pillars along 154 miles of line.

Suil Valley.—Total length of line 144 miles 2 furlongs; out of this 129 miles 6 furlongs have been completed.

Ravi Proper.—290 miles 2 furlongs complete; 2,230 pillars.

The upper boundaries of the Kugti forest on the Ravi Proper, the Dunga Mukua, the Bura, the upper and lower Tain and Doloren forests in the Suil valley, remain still to be demarcated. The upper boundaries of these forests are extremely inaccessible, and as there is no danger from cattle from that direction, and as the natural boundary line is unmistakeable, their artificial demarcation is of no great importance and can be completed whenever the time can be spared.

The Shahpur Kandi forests have been demarcated some years ago by pillars, and a line 10 feet wide was cleared round them 96 miles long, but, as the proprietorship of the area has not been settled as yet, the demarcation was somewhat premature. The boundary pillars in the Kálatop forest were put in thorough repair when an insignificant encroachment was discovered which will be rectified. The boundaries round the outlying forests Banikhet, Bakloh and Dadra have all been put in repair.

33. *Beas Division.*—No change has taken place in the permanent demarcation of the forests in this division, but the boundaries were inspected and pillars repaired where necessary.

The demarcation of the proposed reserves and protected forests in Kulu not being final need not be mentioned in detail; no alterations have been made in the temporary demarcation of the proposed protected forests in the Kángra and Hamirpur tahsíls made in 1880-81 and 1881-82 respectively.

34. *Bashahr Division.*—During the year preliminary demarcation was pushed on, and the upper boundary of the selected forests was demarcated by loose stone pillars extending from Moral Peak to Hatta Peak.

The Peshadu, Sonathling and Barauli forests above the road between Rámpur and Gura were also preliminarily demarcated to check any increase of privileges already existing within them. It is feared, however, that our interfer-

ence comes too late, and that the privileges already in existence are more than the forests can bear. To Government the forests, burdened as they are, are valueless, and it only depends to be decided whether it be our duty to conserve them for the people of the town of Rámpur, who are dependent on them. The matter will, after fuller enquiry, be discussed with the Superintendent, Hill States. Old boundary pillars were maintained. A record prepared by the Divisional Officer of the boundary work done at the beginning of the year, during the year, together with an estimate of the work still to be done, will be found in the appendix.

35. *Jhelum Division.*—The rakhs in the Jhelum Salt Range were, prior to their transfer to the charge of the Forest Department, demarcated with stone pillars by the district authorities, and, wherever alterations in the boundaries occurred during the recent Forest Settlement operations, the necessary pillars were erected at once.

Thus the demarcation of all the rakhs has been completed long ago, but the ruinous condition of many of the old pillars required extensive repairs throughout the whole Salt Range. This work has been commenced during the past working season; the progress made is exhibited in the following table:—

District and Range		*Number of pillars completed*			Cost in rupees	*Number of pillars not yet completed*			Remarks
		Built anew	Repaired	Total		To be built anew	To be repaired	Total	
Jhelum District	Jhelum ...	430	632	1,062	788	27	124	151	This table shows work completed up to 20th April 1884. Of the total sum of Rs. 1,197 shown as cost, only Rs. 412 were actually disbursed during 1883-84.
	Pind Dádan Khan ...	154	535	689	409	327	811	1,138	
Total ...		584	1,167	1,751	1,197	354	935	1,289	

The work will be completed during the present season, and as far as regards external boundary marks we may rest satisfied; but in the reserves exist plots of culturable land owned by private individuals, and various tracts of forest have been set apart at Settlement for the exercise of rights of user. Such tracts and plots of culturable land were marked out at Settlement with temporary benchmarks only, and must all be demarcated in a permanent manner. This work will be undertaken as soon as the repairs of the pillars defining the external boundaries have been completed.

The pillars in the Shahpur Salt Range are also in a state of disrepair, but I trust they will hold together till the Forest Settlement reaches that district. It would seem waste to make extensive repairs of boundary marks which may be changed at Settlement.

36. *Gujránwála Division.*—The demarcation of reserves in this division has been completed, with the exception of 2¼ miles in the Gujrat District.

The demarcation of the proposed reserves will have to be somewhat modified in accordance with recent orders on the constitution of reserves in the Gujránwála District. In the Bhera tahsíl 44½ miles of boundaries round unreserved rakhs have been demarcated by trenches one chain long and one chain between; 97½ miles are still to be done.

37. *Lahore Division.*—Constantly small encroachments took place in the Sarai Amánat Khan and Nág reserves, and consequently 48 intermediate masonry pillars and 180 mud pillars were put up on the boundary of the former reserve, and the boundary of the latter was made more secure by an additional 12 masonry pillars and 40 mud pillars, and trenching between the pillars.

All reserves in the division are now sufficiently demarcated by pillars and trenches. All existing reserve boundaries have been inspected and repaired. In the demarcation of unreserved forests in the division no alteration has taken place; the boundaries have been inspected and are kept in repair.

38. *Mooltan Division.*—Eight miles of boundary line, 20 feet broad, were cut round the Lodhrán reserves at a cost of Rs. 74, and roots were grubbed out on 20 miles of boundary line, costing Rs. 136.

The demarcation of unreserved forests has been proceeded with by the cutting of some 20 miles of narrow lines in Mooltan and Muzaffargarh, and of some 50 miles in the Dera Ghází Khan District. This demarcation is very cheap.

39. *Phillour Division.*—The demarcation of all the Government forests in this division is sufficiently secure.

The Subáthu plantation is in the course of being demarcated by an aloe hedge, of which 3½ miles have been completed, leaving 2 miles to be finished.

CHAPTER II.—SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

1.—Surveys.

40. I again submit an abstract statement* of areas in each division surveyed and not surveyed—

Divisions	Area surveyed	Area not surveyed	Total
	Acres	Acres	Acres
Hazára	151,372	...	151,372
Rawalpindi	...	66,971	66,971
Chamba	4,207	121,233	125,440
Beas	3,804	33,682	37,486
Bashahr	...	115,200	115,200
Jhelum	197,409	...	197,409
Gujránwála	22,577	26,747	49,324
Lahore	22,932	1,911	24,843
Mooltan	...	124,800	124,800
Phillour	913	...	913
Total ...	403,214	490,544	893,758

The survey work of the year done departmentally is insignificant, and that done by the Settlement Department is not shown in the form before the work is completed.

41. The whole of the *Hazára forest division* was surveyed at the time of Settlement, but only temporary boundary marks were put up. These were with some difficulty replaced by permanent masonry marks, and it was then found

* Difference between total areas shown here and in Form 49 is owing to area being shown in square miles in Form 49, where fractions under ½ mile are omitted.

necessary to prepare maps for each reserve showing the exact position and number of each pillar. Twenty of these maps were completed during the year.

42. In the *Rawalpindi Division* no departmental surveys were made, but considerable progress has been made in the Forest Settlement surveys. Maps have been prepared in that department on the scale of 8 inches to a mile, and rough copies of them have been made over to us. The maps of these reserved and protected forests will ultimately be photozincographed at Dera Dún, but whether on the 4-inch or 8-inch scale has not as yet been decided.

The Jabba jhíl in the Peshâwar District was surveyed at a cost of Rs. 473, which, however, appears in the accounts of 1884-85.

43. In *Chamba* the Goltán forest on the Suil river was surveyed by Mr. Copeland, Assistant Conservator. The Divisional Officer complains that he has no reliable maps of the main forests in which work is going on, *viz.*, Kainthli, Padri and Bohar, Chatri, Sikki, Rupáni and Khani; and that neither he nor his Assistant has time to make the necessary surveys Since then the Working Plan Division has been deputed to Chamba, and the Superintendent of Surveys in Dera Dún has been asked to send us a small survey party consisting of two native surveyors.

No surveys have taken place in *Bashahr.*

44. In the *Beas Division* no regular forest surveys have been made as yet, but on completion of the Forest Settlement and demarcation it will be necessary to have the forests regularly surveyed. Sketch maps were made during the year by Mr. Gisborne Smith to accompany the Settlement Officer's report on the Kulu forests.

The Karnpur bamboo forest had to be re-surveyed and mapped, as it was found to be utterly wrong when the Conservator and Settlement Officer first met to settle Chaudhri Jai Karn's case.

Copies of the Hoshiárpur Settlement maps of the Mallanwál-Bagarián reserve have been obtained, also a copy of the Settlement maps of the Gagriwál rakh in the Amritsar District. Colonel Stenhouse reports that there are Settlement maps of all forest reserves in his district, but that they are not very accurate.

45. *Jhelum Division.*—No surveys of any kind were undertaken during the year, and none were required. The patwáris' maps of all reserves made during the recent Settlement are in existence, and are believed to be of sufficient accuracy for any practical work, but they suffer from being overburdened with needless and confusing detail, such as the boundaries of the fields or units of the khasrá. These boundaries form a net-work of, as far as our rakhs are concerned (where the fields represent mostly arbitrary divisions), purely mathematical lines, showing the original construction of the map, but conveying no clear idea to the Executive Forest Officer, who rarely has had the technical education of a patwári. A translation of these maps for the use of the Forest Department was begun during the year by the Working Plan Branch, and will, I trust, soon be finished.

The rakhs in the Shahpur Salt Range are unsurveyed, and no maps whatsoever are available, but their survey will be undertaken simultaneously with the Forest Settlement. This survey will include an area of some 200 square miles.

Most of the belás of which no survey exists are too unstable to make a map of any value.

46. *Gujránwála Division.*—With the exception of the Pabbi, and rakhs Marri and Dhal in the Gujrat District, all reserves in this division have now

been surveyed and mapped. The proposed reserves have all been surveyed, but, in accordance with recent orders, the line of the irrigable areas in rakhs Kingranwáli and Gujána will have to be laid down anew and surveyed as the boundary between the reserves and protected forests.

47. *Lahore Division.*—The only reserves of which no accurate maps are said to exist are Sarai Amánat Khan and Bahoru. The matter will be investigated by the Working Plan Branch with a view to ascertain whether the maps cannot be compiled from existing patwáris' maps.

In Chánga Mánga it will be necessary to survey the extensions of arboricultivation in Blocks III and IV which were executed after the general survey had been completed. The surveys are small and can be made by any of our trained rangers.

A few small surveys were carried out by the Forest Department, and it was found out that 75 acres of alluvial land at Jhoke claimed and ploughed by the zamíndárs actually belonged to Government. This was proved, and the land was formally made over to the Forest Department.

48. No surveys were made either in the *Mooltan* or *Phillour Division.* But when the standing crops of trees in the Ludhiána and Phillour plantations were bought by the Sind, Punjab and Delhi Railway Company they at once made accurate surveys of these areas, tracings of which have been obtained There is an accurate map of the Subáthu plot in existence, but sketch maps only of the Sarangwál rakh, Jagádhri plantation and the Kalesar forest. Of this latter it is necessary that a good survey should be made, but I have delayed asking that the Superintendent of Forest Surveys should undertake the work in the hope that it will soon be created a reserve.

49. It is most desirable that an atlas should exist in every division of all the forests in charge of the Divisional Officer, and that a copy of such atlas should be deposited in the offices of Government, the Inspector-General of Forests, the Conservator, and the Deputy Commissioner of the District. The Working Plan Branch is collecting the necessary data, and progress in this work will be reported annually. During the year maps were compiled on the scale of 4 inches a mile of nearly all plains districts, showing the Government land under the Forest Department and District Officers. They were originally compiled to accompany reports, but they will, I trust, soon be multiplied, as they will be useful and as the collection of the data entailed considerable trouble.

2.—Working Plans.

50. A list of the working plans made during the last eleven years of forest administration in the Punjab was given in last year's report, paragraph 38.

Not one of these plans would stand having the standard of strict scientific enquiry applied to it, and all are merely make-shifts open to many objections. In spite, however, of all their incompleteness and faultiness they have exercised a most beneficial influence on the management of the forests for which they were designed. They have stood a safe guard against overworking, and to a great extent ensured reproduction, which to judge from other forests might have been neglected without them.

51. It has now been generally recognized that a working plan must underlie the management of any forest area if their maintenance and improvement are to be ensured; and during the year Government have sanctioned the establishment of a special Working Plan Division. It is of course to be foreseen that with only one officer at our disposal the framing of working plans, even of the roughest kind, for all forests in the Province will be a tedious work and extend over many years, but the matter has been started, and I feel confident that we shall be able to show good and useful work even at the end of the first year.

As a preliminary to future work, the Working Plan Division began by recasting the Forest Settlement records of the Jhelum Division.

Without further explanation this sentence reads as if I broadly condemned or attacked the customary settlement records, but I wish to do so by no means, and only intend to point out that a system which is admirably adapted to cultivated districts, where the boundaries of every field entered on the khasrá are known to every one interested, is useless in the vast tracts forming our reserves and protected forests, where such boundaries only represent mathematical lines, the position of which cannot be ascertained without actual measurement on the ground. I believe the recasting of these records to be a most useful work.

Since the close of the year the Working Plan Division has been deputed to Chamba. The forests in this State are leased by Government, and we are therefore doubly bound; in the first instance, to the Rája, to manage his forests in such a manner as to be able to hand them back at the end of the lease in an improved state; and secondly, to the public, which may demand the best management feasible, both as regards direct profits and an uninterrupted supply of the most useful timber. These aims cannot be attained without a plan of operations based on enumeration of the growing stock and a systematic observation regarding annual increase; a plan in which the annual outturn is fixed, and in which a system of reproduction is prescribed. The plan of operations will be kept very general and elastic, but it is intended to prepare a more detailed plan for the next ten years. When the working plan for the Ravi and its tributaries has been finished, Hazára should, in my opinion, be the next taken in hand, then Rawalpindi, Kulu, and so on.

52. *Hazára Division.*—The officer in charge of the Hazára Forest Division reports that the working plan for Khanpur has generally been acted up to. This is not sufficient information, and I trust that in the future, since we have now a trained officer in Hazára, more detailed information will be forthcoming.

A working plan for the Khágan range is very urgently wanted; our information regarding the present state of those forests being very scanty.

53. No working plan is in existence in the *Rawalpindi Division.*

54. *Chamba Division.*—The only working plan that has ever been made in Chamba is that for Kálatop, prepared in 1873 This plan contains no doubt many mistakes, the chief of which is that not sufficient consideration was given to the large fluctuations in the demand The main object, however, was to secure a permanent supply of timber for Dalhousie, and ultimately to convert the mixed forest into one containing a peuplement of more or less pure deodár.

As regards some of the upper Deinkoon compartments, the forecasts were wrong, which is partly due to insufficiently accurate observation, but also, to a great extent, to the fact that grazing, which was excluded at the time, was some years later re-allowed, the question affecting the dairy supply of Dalhousie and Balun. I lay no great stress on this point, as the compartments are above deodár limits, and contain a considerable proportion of clayey loam soil, which it is *now* known is less suitable for deodár.

The main object above mentioned has, however, been obtained. Dalhousie has always been fully supplied with timber, and the improvement of the forest must strike the most casual observer, and is a fresh pleasure to me at every new visit.

As regards reproduction and cutting out of trees of other kinds, the plan has been generally adhered to, though both have been periodically neglected. The present Divisional Officer, however, has done much to repair the consequences of former neglect, and very successfully. At present the axe is more urgently required than the spade—that is, thinning out of trees overtopping or annoying promising deodár is more wanted than extensive planting, though of course many blanks are still to be found which require to be filled up.

55. *Beas Division.*—No regular working plan has ever been prepared for any forest in the Beas Division, and pending completion of the Forest Settlement I would think it premature to attempt it. A short note was prepared in

1869 for the working of the Kulu forests, but this was more in the shape of a general guide regulating the fellings for the time being, and has become obsolete, the conditions of the forests having been altered by the Forest Settlement which is still in progress.

56. *Bashahr Division.*—The forests in this division are mainly worked on the suggestions for their management drawn up by Dr. Brandis in 1881. These suggestions are adhered to in all main points as regards exploitation, and only artificial reproduction is made use of somewhat more intensely than prescribed in the working plan, and this I consider a deviation in the right direction.

57. In the *Jhelum Division* no working plan is in existence, and none is required very urgently. The rakhs consist of mere scrub jungle, thinly clothing a rugged sterile tract of hilly country. The question as yet is what rakhs shall be permanently and effectually closed against grazing, and these must be carefully selected amongst those from which we have a right to exclude cattle.

58. A plan of operations was drawn up for the rakhs of the *Gujránwála Division* in 1878, but was never acted up to.

59. In the *Lahore Division* the only working plan in existence is that for Chánga Mánga plantation. This plan only provides for the management of Blocks I to III, aggregating 6,688 acres. The extension of Block IV was made later on.

The plan, based on very meagre data, provides for a rotation of a 10-years coppice crop with 40 reserved standard trees per acre, and an annual cutting in Blocks I, II and III, the fellings to be so regulated that there should be at least always one wooded compartment between each two felled for coppice. This provision of the working plan has unfortunately not been adhered to; the fellings have not been distributed, but compartments 1 to 12 aggregating 1,411 acres were felled in one block and no standard trees were left. The watering of the coppice area is thereby—as only one main water-course can be used—rendered a matter of extreme difficulty.

In 1879-80 it was proved by experiment that if 40 to 45 standard trees per acre, as originally laid down in the working plan, were left, the coppice grew extremely badly. This result warranted no doubt an alteration, but was hardly sufficient reason to leave no standard trees at all. The fellings of 1883-84 were made so as to utilize other water-courses, and 10 to 15 standard trees per acre were left.

Thinnings were also not carried out in accordance with the plan, and no reasons were recorded why this was not done.

The management of Block III has at present been entirely altered from the provisions of the plan, and I think with good reason. Block III is worked as a high forest with mulberry undergrowth. Much experience has been gained since 1873, and I think an early opportunity should be taken to entirely revise and alter the working plan on the basis of this increased knowledge.

60. In the *Mooltan Division* a working plan was made for the Sarai Sidhu reserved forest in force up to the end of the year under review. It is reported that the provisions of the plan have been carried out, but I have as yet had no opportunity to judge of the results.

61. No working plan exists in the *Phillour Division*, but I think that the Kalesar forest should be taken in hand as soon as it is formed into a reserve.

3.—Annual plans of operations.

62. The work of the several divisions is generally carried on according to a preconceived plan of operations, and I hope in future years to be able to add an appendix to my report showing in how far these plans have been adhered to, or reasons for deviation from them.

CHAPTER III.—PROTECTION AND IMPROVEMENT.

1.—Establishment.

63. Mr. B. Ribbentrop, Conservator of Forests, proceeded to Europe on 3 months' privilege leave in February 1884, and was relieved by Mr. A. E. Wild, Deputy Conservator of Forests, who held the appointment for the rest of the official year.

Mr. W. D'Arcy, Deputy Conservator of Forests, was transferred as a temporary measure to Bengal in September 1883, and rejoined the Punjab in December 1883, and has since been placed in charge of demarcation and working plans.

Mr. J. L. Pigot, Assistant Conservator of Forests, appointed by the Secretary of State for India, joined the Punjab in December 1883.

Mr. C. F. Elliott, Deputy Conservator of Forests, proceeded on furlough in March 1884.

Bábu Kirpa Rám, Probationary Sub-Assistant Conservator of Forests, died on the 4th November 1883.

64. The reorganization of the Subordinate Establishment was carried out during the year, the establishment being brought up to full sanction of Rs. 9,043 per mensem.

65. Of the native Non-Commissioned Officers, Duffadár Ahmed Ali Ján has, since the close of the year, at his own request but at my instigation, been permitted to rejoin the Military Department. He entered the Forest Department to have, as he said, lighter work and more pay than in the Military Department, and employment in the vicinity of his home. Another native Non-Commissioned Officer, Lance-Duffadár Nathá Singh, has, since joining this Department, been invalided and discharged from the Military Department. Náik Jaymal Singh and Duffadár Sunder Singh have been favorably reported of.

66. Foresters Sadhu Singh, Ráma Nand and Ghúlam Muhammad obtained the Ranger's certificates from the Forest school, and were promoted to Rangerships. In addition to these the Forest school was attended by Forest Ranger Mansukh Rái, and Foresters Jai Kishen, Atma Rám, Ghulám Muhammad and Thákur Dás.

67. I am almost throughout satisfied with the work done by the Subordinates, but must specially mention Forest Ranger Háji Fazl Dín, who has now been for a considerable time in charge of the Chánga Mánga sub-division at a time when work was and is extremely heavy.

2.—Breaches of Forest Rules.

68. The following table is a summary of Form No. 52 :—

Divisions	Pending from 1882-83	New of 1883-84	Total for trial	Concluded in 1883-84	Convictions	Acquittals	Cases pending at close of 1883-84	Cases compounded under Section 67 of Act VII of 1878
Hazára	7	99	106	84	60	24	22	...
Rawalpindi	21	187	208	174	132	42	34	84
Chamba	1	21	22	18	14	4	4	...
Beas	10	213	223	216	201	15	7	...
Bashahr	19	65	84	30	19	11	54	...
Jhelum	2	103	105	104	81	23	1	10
Gujránwála	6	62	68	62	54	8	6	1
Lahore	1	21	22	22	16	6	...	...
Mooltan	37	173	210	199	131	68	11	203
Phillour	2	24	26	26	14	12	...	...
Total ...	106	968	1,074	935	722	213	139	298

69. In the Hazára Division 36 cases of forest offences less were taken into court than last year, and the percentage of convictions is 71, which is a very fair result. 99 new offences were brought to trial, of which 45 were committed in the Khanpur range. The fines inflicted in Hazára amounted to Rs. 1,337, against Rs. 10,356 during the year before. The Commissioner has applied for two more cattle pounds to be established at Nára and Lorá, as at present cattle caught trespassing have to travel at least 25 miles to the nearest pound. Hazára does not give the number of cattle impounded.

70. In the Rawalpindi Division 187 new cases of forest offences were brought into court, which is 13 in excess of last year. 174 cases were tried by the court against 193 in the previous year, yielding 76 per cent. of convictions, which compares favorably with last year's results. 84 cases were compounded under Section 67 of the Forest Act. These were all cases of cattle-trespass concerning 3,250 animals—camels, goats, sheep, &c. Besides these 11,560 animals were impounded, so that a total of 14,810 animals were found trespassing, of which, however, 1,958 were released without fine.

Last year I had to report the murder of the second forest guard in the reserves near Attock. This year again forest produce was forcibly removed from Kaolgarh reserve, the axes were wrested from the forest guard, and he was threatened with the same fate as his predecessors. These appointments begin to get somewhat unpopular, and the Deputy Commissioner has been addressed on the subject.

71. *Chamba Division.*—In the Chamba Division the number of forest offences is much the same as last year, *viz.*, 21 against 23; percentage of convictions 78.

72. *Beas Division.*—In the Kángra District there were 174 new cases as compared with 114 last year; in the Hoshiárpur District 35 new cases as compared with 17 in the previous year; in the Amritsar District 3 new cases as compared with 1 during 1882-83; and in Gurdáspur 1 new case against none in the year previous.

223 new cases of forest offences were brought into court, but the percentage of convictions (93) must be considered very good. The increase in the number of cases is no doubt partly due to the discontinuance of the practice of compounding offences under Section 67 of the Forest Act, *none having been compounded during the year, whereas* 100 *cases were compounded in* 1882-83. 1,866 head of cattle were impounded for cattle-trespass.

73. In the *Bashahr Division* 84 new cases of forest offences were instituted; the percentage of convictions obtained was 63. The reason for there being such a large number of cases pending is that small-pox has been very bad at Rámpur, and that the Wazírs who attend to summons had been away.

74. In the *Jhelum Division* 103 new cases, as compared with 136 in 1882-83, were brought into court; percentage of convictions 78. 10 cases were compounded under Section 67 of the Forest Act.

Great difficulty is constantly experienced in preventing cattle-trespass in the closed rakhs. The average area of each guard's beat is 8 square miles, and it is impossible that one man can efficiently protect so large an area of hilly country. No less than 3,386 head of cattle have been impounded during the year, but mere liability to payment of pound-fees is not sufficient to deter owners from illicit grazing, as they are only caught periodically. Fencing cannot be resorted to in such large areas of hilly country. The only remedy in these cases is to find out the cases where the cattle have not accidentally strayed, but are driven to pasture in reserves, or are permitted to remain in reserves after the owners or people in charge have seen that the cattle are trespassing in reserves, and to prosecute under Section 25 of the Act in addition to applying Sections 69 and 70.

Some of the judgments by Native Magistrates in the Jhelum Division, regarding offences prosecuted under the Forest Act, show an utter want of knowledge of the Act and rules, and consequent failure of justice; they were handed up to the Deputy Commissioner of the District.

75. In the *Gujrânwâla Division* there has been a decrease of 4 cases as compared with 1882-83, while the percentage of convictions has risen from 82 to 87. One case was compounded under Section 67 of the Forest Act. The cattle impounded during the year amounted to 1,954, for the release of which Rs. 354-10 were realized; 35 head were released on a compounded payment of Rs. 12-6.

76. In the *Lahore Division* there is a decrease of 10 cases as compared with last year, the percentage of convictions obtained being 73. No cases were compounded under Section 67 of the Forest Act; 2,469 head of cattle were impounded during the year.

77. In the *Mooltan Division* 44 new cases of forest offences were brought into court in excess of the year previous; the percentage of convictions obtained is 66. 203 cases were compounded under Section 67 of the Forest Act, and Rs. 688 realized. 4,799 cattle of sorts were found trespassing; of these 2,465 were impounded and 2,334 dealt with under Section 67 in the above-quoted 203 cases.

In the Muzaffargarh District forest offences are not recognized, as there are neither reserves, protected nor village forests, and the Penal Code is declared inapplicable by the civil and police authorities owing to the Chief Court ruling 22 of 1876; so that in any Government forest property trees may be felled, girdled, lopped, tapped or burnt, removed or sold, without, in the district authorities' opinion, an offence being committed.

78. In the *Phillour Division* there is a decrease of 8 cases as compared with 1882-83, while the percentage of convictions obtained is 54. No offences were compounded under Section 67 of the Forest Act. 417 head of cattle were impounded.

79. Barring Hazára, which submitted no return, 26,315 head of cattle were caught trespassing in Government forests.

80. Subjoined is a table comparing the different kinds of offences committed during the last three years :—

Nature of offences	Number			Increase over previous year	Decrease over previous year
	1881-82	1882-83	1883-84		
1. Injury to forests by fire ...	92	119	126	7	...
2. Unauthorized felling or appropriation of wood or minor produce ...	382	431	437	6	...
3. Grazing without permission ...	149	169	193	24	...
4. Other offences ...	87	184	212	28	...
Total ...	710	903	968	65	...

This table shows an increase under each class of offences.

The Hazara Division shows a decrease under every head, especially under "injury to forests by fire," which has fallen from 30 to 13 cases. In the Rawalpindi Division there is a slight increase under all classes of offences. In the Chamba Division there is a slight increase under "injury to forests by fire" and "unauthorized fellings." In the Beas Division the increase of forest offences is most serious, especially under "injury to forests by fire." The increase under "unauthorized fellings" is attributed to the discontinuance of compounding cases under Section 67. In the Bashahr Division there is an increase under "unauthorized fellings" and "other offences."

In the Jhelum Division there is a slight increase under "grazing without permission." In the Gujránwála Division there is a slight increase under "injury to forests by fire," "grazing without permission," and "other offences."

In the Lahore Division there is an increase of one case under "injury to forests by fire." In the Mooltan Division the chief increase is under "grazing without permission," which is owing to the failure of the rains and scarcity of grass. In the Phillour Division there is a slight increase under "injury to forests by fire" and "unauthorized fellings."

3.—Forest Fires.

81. The subjoined table shows that 143 fires took place in the forests under the charge of the Forest Department, the area burnt through amounting to 29,907 acres :—

Division	Number of fires		Estimated area over which the fires spread	
	1882-83	1883-84	1882-83	1883-84
			Acres	Acres
Hazára ...	30	13	14,350	3,716
Rawalpindi—				
Murree tahsíl ...	19	17	6,000	2,618
Rawalpindi " ...	3	2		
Chamba ...	6	11	5	2,500
Beas—				
Kulu Range ...	16	17	235	848
Núrpur " ...	15	3	2,070	180
Dera " ...	7	37	70	15,378
River " ...	...	2	...	600
Bashahr ...	20	11	543	Insignificant.
Gujránwála ...	5	9	53	1,219
Lahore ...	19	7	862	451
Mooltan ...	20	13	6,604	2,307
Phillour ...	3	1	4	90
Total ...	163	143	30,796	29,907

82. There has been a considerable decrease in the number of fires, which is satisfactory, though the area burnt has, in consequence of some extensive fires in the Beas Division, not much diminished. I have, as far as possible, arranged for the suspension of rights under the Hazára Forest Regulations as well as the Forest Act. I trust this will do some good, but till forest incendiarism is punished with the utmost rigour of the law it will apparently not cease in this country.

The extent of the fire should not, in my opinion, influence the punishment inflicted in cases when incendiarism is proved, for when a man deliberately sets fire to a forest, or to grass-land, even his own, in the vicinity of a forest, he must know that he is likely to do damage amounting to more than Rs. 100, and is liable to be punished under the Indian Penal Code wherever the Forest Act does not touch him. The question is one that requires the most serious attention from all sides, as one fire destroys the fruit of years of labor and growth, and forests which might have yielded grass and other minor forest produce for the public must perforce be reclosed for reproduction.

83. *Hazára Division.*—The fires this year have, though largely decreased in number, again been far too numerous, and as it is hopeless to expect that the zamíndárs will come to their senses unless a stringent remedy is applied, I have last year addressed the Deputy Conservator of Forests on the subject, and he has now, in conjunction with, and through, the Deputy Commissioner of Hazára, warned the zamíndárs that Section 29 of the Hazára Forest Regulations will be carried out most strictly, and that all areas burnt will be closed to all right-holders until young trees have re-attained their former growth.

The area consumed this last season amounts to 3,716 acres.

Up to date, owing to the constant changes of the Deputy Commissioner, only one of the 13 cases which were reported as soon as they occurred has been tried. I can therefore give no particulars beyond informing you that 13 cases of fire have occurred, that all were reported for investigation as they occurred, but that only one of them has been tried as yet. The present Deputy Commissioner has ordered the cases to be brought before him.

84. *Rawalpindi Division.*—The returns for this division show that 19 fires occurred during the year, and that 2,618 acres were burnt over. All fires but one were at once extinguished, but the one unluckily extended over a large area and 3,405 pines are stated to have been more or less damaged in the Murree tahsíl.

85. *Chamba Division.*—The forests of Kálatop, Kainthli, Banikhet and Bakloh were carefully protected during the hot months, and no fires occurred. The Shahpur Kandi forests were protected to within a week of the first heavy fall of rain, when quite unexpectedly some 2,500 acres were burnt by deliberate incendiarism. In the other forests the following fires occurred during the year, none of any importance, and in all cases the offenders were punished :—

Chad-bent forest—a trifling fire ; damage about a score of trees.

Koran forest—9 deodár saplings burnt.

Gagri forest—a larger fire caused by a man smoking in the forest ; some 500 trees of various kinds were damaged.

86. *Beas Division,* Kulu range.—17 fires occurred in Kulu ; however, only one was of importance, extending over 836 acres out of the 848 reported as burnt ; moreover, the forest in which this fire raged was valuable and several acres of deodár forest were burnt. Fines were levied in connection with this fire amounting to Rs. 118-9-6, and on account of the whole 17 fires that occurred in Kulu to Rs. 462-2-9.

In the Hamirpur tahsíl in the Dera range several extensive fires occurred which spread over some 24 square miles of country and did immense damage. There is but little doubt that they were lit intentionally, but by whom was not ascertained. The villages in whose boundaries the fires broke out were fined an aggregate of Rs. 1,591-6, and the worst burnt patches were closed.

In the Dera tahsíl seven small fires took place but did no damage : the offenders, Colonel Stenhouse reports, were apprehended, prosecuted and fined. In the Núrpur tahsíl only two fires of any consequence occurred, spreading over 120 acres and 60 acres respectively, and injuring some 240 chíl trees. Small fines were realized in connection with these cases.

87. *Bashahr Division.*—The following forests are reported to have been burnt during the year :—

Range	Name of Forest	Remarks
Neogli ...	Thedda ...	Grassy slope burnt.
" ...	Konortoo ...	Do.
" ...	Donote ...	40 chains by 30 chains chíl forest.
" ...	Mondoli ...	A few kail saplings singed.
" ...	Kungol ...	Do.
" ...	Khultoo ...	Grass slope and a few chíl.
" ...	Bonowli ...	Do.
" ...	Mundoge ...	Do.
Tranda ...	Chunda ...	A few deodár saplings scorched.
Chini ...	Jangi ...	Do.
Pandrabis ...	Bárrung ...	Do.

Most of these fires are due to accident and clumsiness, and will in time cease. The villagers are permitted under a long-standing custom, which may be said to have grown into a right, to burn the grass slope below the forests. This is done under the direction of the foresters and guards, but we have of late made the villages burn fire lines, and this is as yet often done in an imperfect way and accidents happen. The Divisional Officer, however, trusts that he will in time induce the zamíndárs to burn fire lines of their own free will round any piece of grazing-ground they wish to burn.

88. In the *Jhelum Division* there is nothing to burn on the ground, and consequently no forest fires have taken place.

89. In *Gujránwála* considerable damage was done by the burning of Bela Náth. The fire must have been wilfully lighted, but we failed in our endeavours to bring it home.

90. In the *Lahore Division* no serious damage was done by any of the fires that occurred during the year, but though several were evidently wilfully lighted, we, as well as the police, failed to obtain the slightest clue.

91. *Mooltan Division.*—The fires in the Montgomery and Mooltan Districts were small and readily put out. Their origin was not discovered.

In the Muzaffargarh District about 1,000 acres were burnt; the origin is believed to be carelessness with fire by cattle-drivers, but of course in the opinion of the district authorities no offence has been committed.

In Dera Ghází Khan the persons who lit the fires were caught and condemned to fines of Rs. 40, Rs. 44 and Re. 1-8 respectively, and 36 stripes. The most important case is still pending.

These people undoubtedly do not light the fires out of mischief, but with a view to future profits in the shape of a more rapidly-growing grass crop, and of course would be severely punished by exclusion from grazing.

92. *Phillour Division.*—A distressing fire broke out in the Ludhiána plantation, caused by travellers it is believed. By it about 90 acres of young coppice were destroyed. The surrounding villages were called on to afford assistance, but refused to do so; they were proceeded against under Section 78 of the Act, but acquitted for want of proof. The Subáthu plantation is, Mr. Down reports, during the hot weather in constant danger on account of the soldiers smoking and their extreme carelessness with matches. The plantation has on several occasions taken fire, which, however, has always been at once extinguished. The plantation is now fairly stocked and much too valuable to be lightly sacrificed.

4. Grazing and Fencing.

93. The following is an abstract of all areas closed against grazing :—

Divisions	Areas closed					
	Entirely		Part of the year		Against camels, goats and sheep	
	1882-83	1883-84	1882-83	1883-84	1882-83	1883-84
Hazára	144	143	...	...	...	...
Rawalpindi	78	77	...	...	...	...
Chamba	4	61	...	...	...	...
Beas	58	53	...	5	...	...
Bashahr	2	26	...	...	...	...
Jhelum	23	30	...	...	47	49
Gujránwála	6	19	33	33	148	136
Lahore	42	48	...	9	...	70
Mooltan	42	8	23	31	...	284
Phillour	2	2	...	...	...	...
Total	401	467	56	78	195	539

It will be observed that the areas closed during the year have slightly increased under every head, those entirely closed having increased by 66 square miles, those closed part of the year by 22, and those closed against camels, sheep and goats by 344 square miles; but still the total of the areas closed is but a fraction of the extensive grazing-grounds of the Punjab, to which as regards the above statement those of Chamba and Bashahr have to be added.

94. The management of the grazing areas in this Province is a question of great importance and great difficulty. The inhabitants of the great southern Bár districts are entirely dependent on it, as the annual rainfall is by no means in every instance sufficient to permit of agriculture being carried on as the main means of livelihood; moreover, the water is in very many places too far from the surface to allow of extensive well-irrigation. Altogether these people live under difficulties from which the inhabitants of the happier situated irrigated districts and the districts underlying the Himalayas are luckily exempted.

95. If left to themselves the dwellers in the Bár will permit their herds to increase in favorable years, and consequently suffer still greater hardship in years when rainfall is scarce. It will be therefore our duty to create much more extensive grass reserves for such eventualities than has been done as yet. The scarcity of grass occurs both annually and periodically, and two kinds of reserves should consequently be created; those to supply the annual want, to be opened in those months when the scarcity in the outlying grazing-grounds is mostly felt, which may be earlier or later in the season according to the rainfall of the year, but falls as a rule between October and the summer rains. The latter reserves, those closed for periodical scarcity, should only be opened when such extreme scarcity really occurs, though in other years the cutting of grass might be allowed in them at the end of the season.

96. In the plains districts, which are either irrigated or which underlie the Himalayas and have consequently a sufficiency of moisture and rainfall, the grazing question, though it may become an annoying one, can never be one of the same vital importance. In the Lahore District the steadily increasing pressure of cattle-owners into Government rakhs indicates a large increase of cattle, but though they may have to be stall-fed at some future time it will always be possible to produce sufficient food for them on irrigated land.

97. The grazing in the lower hill districts is partly local, partly pertains to the vast system of Himalayan grazing. Far away in Chamba, Bashahr, Kulu and Kashmir, and even in Spiti and Lahoul, every summer opens immense grazing-grounds of the richest pasture. The proprietory right of these is, as a rule, only claimed by the ruler of the country, and every comer may graze his cattle, sheep or goats against a small fee. The natural consequence of this is that people from all countries within reach of such pasture-grounds flock to them. Their herds increase rapidly under the most favorable conditions, and when winter begins to cover the rich pasture-land with snow they have to retire from the Alpine regions to the winter grazing-grounds in the outlying hills, the areas in the interior valleys, which are not always even sufficient for the local herds, being by far too cramped to receive them. The consequence is that large, and I fear increasing, numbers of animals have to be wintered in the lower hills of the Punjab, which certainly bear the traces of a long period of this annual inroad. This evil can only be alleviated by the creation of forest reserves and their strict closure.

98. The higher hill forests suffer mostly from local herds which have been wintered in the upper valleys. These herds are not very extensive, and I do not fear but that the question with regard to them will gradually settle itself. By judicious management much has already been done in this respect in the Bashahr Division and the Bhandal valley in Chamba, and I have every reason to believe that in the rest of the country it will in time be settled as satisfactorily.

99. In the most western and most eastern divisions of the Punjab we are threatened by an inroad of Gujars. In Hazára this is due to our mismanagement immediately after completion of the Hazára Settlement. We allowed the villagers to enter our forests and graze their cattle in our reserves, and the villagers

not requiring their own land leased their guzárás to Gujars. These nomads once admitted are difficult to get rid of, but during the last two years they have either retired or settled.

In the Bashahr Division the Gujars approach by the Pubbar. The maximum number to be allowed into the forests of that valley was two years ago fixed at 500 head of buffaloes, but at present some 4,000 are said to graze within that valley. They have tried to sweep down into the Nogli and Behra valley as a route to new pastures; but luckily a belt of reserves extending from Hatta to Moral Peak lies straight across their way of ingress. The reservation of these areas is most popular with the people of the Nogli, Behra and Sutlej valleys.

100. *Hazára Division.*—No alteration took place in the areas closed. The fencing round Changlagali plantation was repaired.

101. *Rawalpindi Division.*—No alteration took place in the areas closed against grazing, which amount to less than 10 per cent. of the forest area at the disposal of Government.

The Officer Commanding the Royal Artillery has during the year leased the area set apart for the grass-supply of his batteries to a grazing contractor with a view to get his grass-supply delivered at barracks. A clearly laid down statement of the rights of the Military in the Government rakhs set originally apart as a sort of reserve for their grasscuts both in the Rawalpindi and Lahore Divisions is, to avoid disputes which have constantly occurred, very desirable and under consideration.

102. *Chamba Division.*—In Pangi the forests are not closed against grazing; they are protected by snow, which only melts on the passes when the summer pastures can be grazed. The few local herds are insignificant, and find plenty of pasture outside the deodár forests—so it is reported.

The following areas are permanently closed:—

				Acres.
Bhandal valley	...	...	...	12,213
Suil "	...	...	...	8,174
Ravi proper	...	...	...	15,885
Special forest and plantations		...	...	2,579
		Total	...	38,851

The whole area of selected forests amounts to about 122,000 acres.

The areas closed in the Bhandal valley are mostly well selected with regard to their fitness for deodár reproduction, but I am by no means satisfied that the same is the case in the other valleys in Chamba proper. I believe here the areas are as often closed because no cattle can get to them. The selection of the forests in the Ravi and Suil valley had hung fire for years and years, and was suddenly taken up with exemplary energy and finished in one season at the expense of great labor and praiseworthy endurance. The results, however, of this over-hurried work are somewhat problematical. I feel satisfied that with the extensive grazing-grounds in the Chamba valley it would have been possible to close everywhere at least the same percentage of the selected deodár forests as in the Bhandal valley where 12,000 acres have been closed out of a total of 18,000, or two-thirds of the whole of the selected forests.

Of course the maturing of such arrangements would have cost much more time, and the closed areas would have to be demarcated separately as in the Bhandal valley.

I do not, however, regard the question beyond repair, and it will certainly not be lost sight of.

The fences in the division were kept in good order.

103. *Beas Division.*—In the Kulu valley 15 square miles have been closed against grazing, but these areas are not always situated in deodár-producing

localities. Seven miles of fencing was done during the year—

3,360 feet wire fencing;
2,569 „ post and rails;
31,355 „ thorn and brushwood;

The existing fences were repaired, and 4 maunds of *Prinsepia utilis* were sown along the fences of some of the closed areas.

The reserves in the Hoshiárpur and Kángra Districts were closed entirely, with the exception of half of the Karnpur and Bindraban forests amounting to 5 square miles, which are open for nine months of the year. This area was by a mistake entered in last year's statement as entirely closed to grazing.

The Bagarián, Mullanwál and Gagriwál reserves were opened to grazing against payment.

It is reported that during the winter 179,000 foreign sheep belonging to Chamba guddies grazed in the unreserved forests of the Núrpur and Dera tahsíls only; this does not include the local herds.

104. *Bashahr Division.*—The grazing was excluded from 26 square miles. As a rule the Deputy Conservator's order is sufficient to effect this, but in cases where village lands abut on the forests, or roads run alongside a selected area, or lead through it to upper pastures or springs within them, trespass would be unavoidable without fencing, and we recognize that the villagers are in such cases entitled to be assisted by a strong fence.

Several new fences have been made and the old ones have been repaired.

105. *Jhelum Division.*—Seven square miles were entirely closed in addition to last year's closed area. The original reason for this closure was, that no contractor could be found to bid for the grazing. If proof is wanted that the area closed in this district is by far too small, this fact ought to go a long way. Two additional square miles were closed against camels, goats and sheep.

The closing is, for want of fencing, as yet by no means very strict, and the cost of constructing fences is prohibitive; the question of quick-fencing, however, is now receiving attention.

In the Shahpur District all grazing leases have been disposed of by the Deputy Commissioner in accordance with Financial Commissioner's Book Circular XV of 1879.

The belás in the Gujrat District were disposed of in the same manner.

In the Jhelum District the lessees have been selected by the Deputy Commissioner under Punjab Government letter No. 260F of 25th May 1881.

Belás Piraghaib and Saila were managed on the Amáni system.

Next year we propose to close 23 reserves containing 78,664 acres in addition to the already closed areas.

106. The only alteration in the *Gujránwála Division* is that in the Pabbi reserves 4 more "kusses," estimated at 8,000 acres, have been withdrawn from the open area and been closed against all grazing.

Of the areas under the management of the Forest Department 60 per cent. are still open to grazing of all kind in the Gujránwála Division, and in the Gujrat District 75 to cattle, though camels, goats and sheep were entirely excluded from departmental forests.

The closed area in the Shahpur District amounts only to 4 per cent. of our forests, and no departmental forests are closed as yet in Jhang.

38 square miles of partially closed areas were managed departmentally; the balance of the open area was sold to lessees.

Felling operations having taken place in belás Charki, Jukalian and Mushtrika, the areas cut over were fenced in by a hedge to prevent any damage being done by cattle which graze on the unfelled portions. Rakh Tibbi Tarar

was cleared of all jhand trees, and the whole of the rakh, containing 209 acres, was fenced in by a hedge about 3½ miles long. A plot of 2½ acres was fenced in rakh Minargarh for the observation of natural reproduction.

In rakh Miani Gondal also a plot of 5 acres was fenced in, so that natural reproduction might be studied.

107. *Lahore Division.*—The area entirely closed has been increased by 8 square miles, that partially closed by 9 square miles, and 70 additional square miles have been closed against camels, goats and sheep. Of the area entirely closed 44·23 form a grass monopoly of the Military Department, and only 55·77 are closed by the Forest Department.

The grazing was managed on the Amáni system, but permits were issued for the year instead of for each crop. The cash advance payment introduced by Dr. Schlich is year by year more strictly exacted, and the consequence is that our outstandings have steadily decreased; at the end of 1881-82 they were Rs. 6,782, 1882-83 Rs. 3,196, and 1883-84 Rs. 2,333.

Some areas were closed from April to September, and were only opened as grass became scarce. They yielded a larger revenue than in former years, when they had been kept open all the year round.

About 200,000 acres were open to grazing, on which the revenue amounted to 36,342 rupees, or to Re. 0-3-4 per acre. For this amount the following animals were admitted to grazing:—

Buffaloes	8,899
Camels	2,504
Cows	26,869
Sheep and goats	42,900
Total ...	81,328

This total exceeds by over 5,000 head the number grazed in 1881-82.

The graziers show a great inclination of settling in the rakhs to which they resort year after year.

The question receives full attention.

108. *Mooltan Division.*—The Mooltan Division suffered from an extreme drought, and, out of the 42 square miles entirely closed the year before, 34 had to be opened for periods varying from two to eight months. 155 square miles of reserved forests and 126 square miles of unreserved forests are reported as closed against browsing animals.

No change has taken place in the *Phillour Division.*

5.—Natural Reproduction.

109. One of the most important questions which the forester has most frequently to decide in this country is how far, and where, he may rely on natural reproduction, and where he should have recourse to artificial help, and to what extent.

110. In the forest areas of western Europe most of the forest trees are gregarious, the forests have been cared for and fostered for a very long period, and, generally speaking, the smallest piece of wood of any species finds a remunerative market. Under such circumstances reproduction of the forests may be left to nature, and in such places it is the forester's highest aim to guard and assist nature so as to reproduce the forest as rapidly and as completely as possible. But already in the more exposed mountain-ranges in the north of Germany the conditions for natural reproduction are less favorable, and artificial cultivation is largely resorted to, to guard against disappointment and to save time and money; and I maintain that the conditions which call for artificial reproduction are very much more pronounced in India.

As a general rule, it may be laid down, that recourse to artificial reproduction is required where the rainfall is very small, and all the more urgently the stronger the evaporation; again, where rainfall is excessive and evaporation slow, or, to express myself shorter, near the climatic extremes of forest growth. Again, where the ground is covered by a dense growth of grass and weeds, where no forest exists of the kind or composition it is desired to create, we must sow or plant, and also where one chosen and selected species is extracted out of a mixed forest, the other representatives of which cannot be disposed of.

In these cases no mode of felling, no girdling regulations, can replace the hoe and the seed-bag, or, better still, the nursery-grown plant. No better proofs of this can exist than Kálatop as regards deodár, and the Tharrawaddi forests in Burmah, especially Bwet, Nyanley and Quaymakein, as regards teak, if compared with forests of the same class and character where artificial reproduction did not take place. We meet again numerous forests which can only or can be more profitably worked by means of slides or other more or less temporary but expensive means of exploitation; of course it pays best if these forests are worked out as quickly as possible, and are replanted where natural reproduction has not previously done its work.

I always look with regret at the Nachar forest, though natural reproduction in it has succeeded more perfectly than in any other pure deodár forest known to me. The exploitation of Nachar, containing some 400,000 cubic feet of timber, extended, however, over 20 years or so, for no other reason but to secure this result. Every year a few trees were brought out not sufficient to pay for the construction of a slide, which taken into the river below Wangtu could have been constructed at a cost of not more than 20,000 rupees. This outlay would have been repaid by saving in labor alone, and long logs might have been extracted instead of the short ones which were dribbled down the hill at the rate of a few hundred a year. Of course long timber is sold at a very much higher price, and I calculate that by the non-construction of the slide we lost from 4 to 6 annas per cubic foot, or over 1,00,000 rupees by the treatment of this one forest.

For upwards of 12 years the trees which had grown in the compact forest yielded no seed, and much dibbling in of seed and planting was at that time executed, as the success of natural reproduction was considered doubtful. I am sorry I cannot say to what extent the existing reproduction is due to this spasmodic help, but only last autumn I visited places in the Nachar forest which I saw planted in 1874, and they form the best part of the young forest. In my opinion no difficulty would have represented itself if the forest had been exploited and replanted in three years; on the contrary we would have gained an average of above ten years in the growth of the new forest. This is the picture of a, for natural reproduction, particularly favorably situated forest.

In the upper Zani and Ramni forests the result is not by far so good, though we felled large quantities of mature blue pine, a measure which cannot always and everywhere be undertaken without a financial loss.

Natural reproduction of deodár in *Parrotia* and *Indigofera* thickets is very rare, though the tree will penetrate oak and rhododendron with great facility; and again, deteriorated grass-slopes and places where the surface-soil has been washed away are the natural fields for artificial cultivation.

Where a forest, as is often the case in this country, can, under Section 29 of the Indian Forest Act, only be closed against grazing for a given period, it would be playing with Providence if we trusted to reproduce such forest by other than artificial means. In almost any case where saving of space and time is a paramount object, the re-stocking of the area by artificial means is preferable to a natural reproduction.

I beg it, however, to be understood that I do not overlook the advantages of natural reproduction which allows us to treat vaster areas, and which in places where it is applicable is certainly much cheaper.

To guide the natural reproduction of a forest to a successful end demands from the forester undoubtedly a much greater power of accurate observation than is required from him who cuts it down and replants it; and it is very tempting to a scientifically trained officer to show that by an intense and accurate study of nature he succeeds in making her subservient to his aims, and that he can reproduce a forest merely by the manner in which he exploits it; but this temptation not rarely awakens a desire which but too frequently leads to the creation of a difficulty with a view of overcoming it, and this of course is inadmissible from an administration point of view. In my opinion the question between natural and artificial reproduction must be decided in every case on its own merits, and the reason of adopting one method or the other must be based on local observation.

112. I trust the insertion of the last few rather discursive paragraphs into my annual report may be excused, but my reasons for it are to lay down the principles on which I wish our newly-formed Working Plan Division to approach this portion of their work, and to show Divisional Officers that their observation and notes on this point must be more intense and ample than is shown by the superficial way in which the subject, especially as regards natural reproduction, has again been treated in several of the reports.

Natural reproduction.

113. I retain the classification of the previous year, and have therefore to chronicle first our experience, observation and work as regards

Alpine Forests.

114. The Hazára report on natural reproduction is not very detailed, and I have as yet only visited the forests in the Gallies, and here no doubt natural reproduction has made great progress of late years, which is especially noticeable on the slopes between Baragali and the western boundaries of the reserves. But almost everywhere where sufficient light is admitted I found seedlings of blue pine, and at higher elevations of silver fir; young spruce seemed to me much scarcer, and I observed no natural reproduction of deodár. My observations, however, were made only on one or two lines of march, and are consequently not so valuable as those which a Divisional Officer should be able to record.

The absence of reproduction of deciduous trees struck me last autumn, but on searching for it this spring, when the rank vegetation had dried up, I found a pretty fair crop of deciduous trees, especially of maple. The plants were very small, but on pulling up a number of them I found that many of them were two, or perhaps three, years old, which coincides with the period that grazing was strictly excluded. They are dwarfed by the annual crop of high weeds which springs up during every rains in this locality; however, as they are alive I have no fear but that they will eventually penetrate and top this cover. The demand for timber in the Gallies is purely local and can well be met as yet from selection fellings, and according to my present knowledge the forests may be treated for natural reproduction, in as far as we do not intend to improve their general character, by the introduction of deodár at the proper elevation, and by the filling up of grassy slopes by which the reserves are interspersed. It will be our aim to gain more sufficient information regarding natural reproduction in the Khágan range.

115. *Chamba Division.*—I could add but little to my remarks regarding natural reproduction in this division, but as I hope myself to visit the Pangi forest during the present season, and as the forests on the Ravi and its tributaries are now being specially examined by the officer in charge of the Working Plan Division and the Deputy Conservator in charge, I intentionally refrain from noting the matter in this year's report.

116. The *Beas Division* reports that the natural reproduction of deodár in the Kulu range is exceedingly good. I have already in my last year's report remarked on the advance of natural young growth in the Kulu valley in

consequence of the stopping of forest fires. The time of the local officer has, during the last year, been taken up to such a large extent by Forest Settlement and demarcation as not to permit of any detailed examination of his forests with regard to reproduction.

147. *Bashahr Division.*—The report on natural reproduction, especially of deodár, is more detailed than any of those of the other hill divisions, and at the same time I have had the advantage of visiting many of the Bashahr forests myself during the year under review. The reproduction in east Nachar is perfect, and the ground is thickly covered with young trees. Natural reproduction has, however, been largely assisted by sowing and planting in former years. The mature trees in the midst of the forest only begun to bear seed after they had been cut free for some twelve years, and some trees never. The reproduction in Tranda is fairly good, but a large proportion of it is blue pine, which is now being cut out.

A good sprinkling of natural reproduction has taken place in patches between the fields below the Faterung and Gaterung forests.

In the Melang valley, where large fellings took place for the sleeper supply of the Sind, Punjab and Delhi Railway, reproduction without artificial assistance is only now closing, some of the deodár plants forming the cover being not above one foot high. The original fellings took place between 1862 and 1866, or some 20 years ago, and the reproduction, which can only now be regarded as completely established, contains a much larger proportion of blue pines than deodár, though twelve hundred trees of mature blue pine were felled.

The Yani forest, an originally much more open forest than Nachar, was first cut in 1880-81. A nursery has been established, but it was found that natural reproduction in this place is so vigorous that very little recourse will be required to artificial reproduction, which will mainly be necessary on slides and places where the timber has been rolled. This forest, however, was an originally open one and contained a good deal of advance growth when it was first attacked.

Probably trees have been extracted from it before our time.

The areas denuded by private timber traders some 24 years ago, wherever they are situated in the moister, for deodár reproduction more favorable, portions of the valley, have begun here and there to be re-stocked with deodár. The reproduction, however, is very patchy, and in Punang and the lower part of Sapni no natural reproduction has taken place at all, and no young growth was observed in Kastiaring, where the Public Works Department felled trees when the Tibet road was being built, and where a somewhat extensive fire took place at the time. I saw this forest in 1874 and again in 1883, and could discern no difference; even the old dead trees and burnt stumps showed no signs of decay or change. No grass has sprung up, no shrubs have sprouted, and the whole place looks dead. This is in one of the driest and rockiest parts of the valley. Remarkable is the reproduction of deodár in the oak forests below Yani, and year after year we observe an increase in the graceful tips of the deodár that have penetrated the dense foliage of the oak. It will not be possible to select these forests for special treatment, as the oak-leaves are wanted for fodder for the sheep and goats that have been wintered in Yani and Kusba villages. In upper Nachar, Dippi, Kukstal, upper Yani and upper Sapni the young deodár growth has a hard struggle against blue pine, in which, if unassisted, it would probably succumb.

Natural reproduction of deodár in the forests on the Lipi stream is reported as satisfactory. This is remarkable as the country is apparently very dry and is a, for me, as yet unexplainable exception. On the whole it may be stated that reproduction in the forests below the mouth of the Buspa is by far more vigorous than in the drier ones beyond.

Natural reproduction in the lower hills.

116. The chil tree, the fir of the Himalaya, is the most common representation of lower hill vegetation. All Divisional Officers are unanimous with regard to the reproductive power of this tree, which in spite of constant fires and incessant grazing has given way but slowly, and which as soon as these causes are removed springs up into a new forest.

It is a splendid tree for protecting the ground against erosion, as it sheds plenty of long leaves, which, if not removed for stable litter or manure, resist the the power of rain-showers even on steep hillsides, and soon cover the ground with a protective layer beneath which the soil has rest.

To create the most useful and most complete fir forest in almost every locality on the lower hills, from the Siran valley in Hazára to the hills on the Giri river, our eastern boundary, nothing is required but immunity from fire, sheep, goats and rakes, the collection of fallen leaves robbing the forest of its greatest indirect value.

In the Khanpur range the Hazára Divisional Officer complains that reproduction is somewhat backward, as he finds it almost impossible to cope with illicit grazing and other maltreatment of the forest. It seems somewhat discouraging that in this district, where the Forest Officer has been subordinate to the District Officer for years, forest offences should be so very prevalent.

The officer in charge of the Rawalpindi Division reports that the fir reproduces in spite of grazing where fires are strictly kept out. I am willing to accept that moderate grazing will not destroy a fir forest, but I have never seen one that had grown into a compact thicket when open to grazing.

The Bara and Kainthla forests near Bakloh have now been completely reproduced by means of protection only.

From the Beas Division also the readiness with which chíl reproduces itself is noted, though it is stated that last year's reproduction was somewhat wanting on account of scanty rainfall, and the extensive fires that took place last year swept away the reproduction of many years over an area of nearly 24 square miles.

The reproduction of other trees in the low hill forests has not as yet received much attention, but in the upper portions of the Margálla reserve Mr. Elliott reported a considerable increase of a young growth of deciduous trees.

An accurate study and record of natural reproduction of all kinds within our closed areas in the lower hills is most important.

Natural reproduction of hilly Rakhs.

117. These hilly rakhs comprise, as far as we are concerned, the lower parts of the Khanpur range in the Hazára Division, a great part of the Rawalpindi forests, the rakhs in the Jhelum Salt Range, and the bamboo forests in the Hoshiárpur District. Nothing is noted as regards the Khanpur range, and the remarks made in the Rawalpindi rakhs are very scanty, though I can gather from them that a general and very marked increase in natural reproduction has taken place since the abolishment of the permit system and the exclusion of grazing. The description of natural reproduction in the Jhelum Salt Range is very discouraging. The areas cut down in 1879-80, which had previously to being cut been grazed over and browsed unrestrictedly, have not reproduced at all, neither by coppice nor seed. It is in the first instance even now almost impossible strictly to exclude cattle (though at the same time it is difficult to find grazing contractors for the open rakhs), and secondly, we have had bad seed years from 1879 to 1883. Strict closure against grazing of all kinds must, however, eventually re-stock these hills. The first effect of closing these rakhs is that a more luxuriant grass crop appears on the ground, which at once elicits petitions to open it to grazing, and seduces the surrounding villages to graze illicitly. Some parts of rakhs Garat and Paniala, and even the rocky rakh Nili, show this stage; next appear scanty and scattered bushes of sanatha, bahikar and ber, and gradually phulái and other better species make their appearance. It cannot be expected that these rakhs, which have been maltreated till almost every particle of soil has been washed away, till hardly anything but bare rock is left, shall, on their being gazetted as a closed State reserve, at once re-clothe themselves with a complete forest. The very soil on which the forest is to grow has to be re-created by nature, and a good many years will have to pass before these rakhs will be covered with even bushes, let alone trees.

In the Pabbi the progress made by natural reproduction is already appreciable. A good many sissu seedlings which came up in 1882 near the banks of the nalas have maintained themselves, but no new ones germinated during the less favorable season of 1883.

Natural phulái springs up readily year after year, but as they germinate mostly in the ravines they are as a rule washed away by any more than usual heavy fall of rain. However, here and there the seed falls on the right spot and the young tree maintains itself. Such natural re-afforestation can but begin very gradually, and it will take many years before those portions of the Pabbi which are left solely to natural reproduction will be covered. The ultimate success, however, depends only on strict exclusion of grazing and fire

The reproduction of the bamboo forests has, owing to scanty rainfall, been not very successful during the year.

The reproduction in Kalesar forest, which is now protected from fire, is reported as satisfactory.

Natural reproduction in the Bár Rakhs.

118. Our information on this point is still very incomplete, but we have made certain observations of interest.

In the Gujránwála bár a small plot of natural produced jhand seedlings was noticed in rakh Kingranwáli. The spot was one where cattle had been for some time squatting during the rains. A number of natural kíkar seedlings came up in rakhs Kikranwáli and Chichra, some have died during the winter, but a considerable number are still alive. The spots have been fenced so as to exclude cattle as a certainty.

In the Gujrat rakhs, Tibbi Tarar and Wassu Jhand, *zizyphus* and *butea* seedlings were noted.

In the Lahore Division natural reproduction has only been noticed in rakhs Dhig, Oulakh and Kuthiala. Dhig is occasionally flooded by the Thaman rajbáha, and a large number of both jhand and kíkar seedlings were found.

Kuthiala is also flooded during heavy rains, and rakh Oulakh is cut up by zamíndárs' water-courses. Reproduction is only found where for some reason or other cattle cannot graze.

Plots of 5 acres each have been surrounded with fences impenetrable to any description of cattle, on almost any description of bár land, and under all the different conditions of annual rainfall, in the Gujránwála, Lahore and Mooltan Divisions. Accurate notes of the vegetation existing at the time the fence was put up have been recorded, and I trust that before long we shall be able to speak with more authority as regards natural reproduction in bár rakhs.

With regard to coppice on bár rakhs, Gujránwála reports that the kíkar in Kikranwáli coppiced freely, but that many shoots were killed by frost. The jhand felled in Tibbi Tarar coppiced well, and consequently all the stunted bushes of this species, as well as of karil, which had been ruined by continuous browsing, were cut flush, and will, now that grazing is excluded, grow into proper trees.

The Lahore Division reports the coppice of the rakhs felled for firewood as satisfactory. The Divisional Officer gives also some very instructive notes as regards coppice from fellings of former years.

In 1864 to 1875 and 1877 the rakhs Pajian, Lakhowál and Bút were cut, and cattle have been strictly excluded. The coppice are now 10 to 15 feet high, and straight grown and healthy, whereas in other rakhs felled at the same time, and from which cattle had not been excluded, the coppice are at present mere bushes. In some rakhs the cattle were only kept out for a time, and in these the coppice are 5 to 6 feet high and have merely a small crown of leaves, the lower branches being entirely denuded by *goats*.

The *Butea frondosa* in the Sarangwál bírs, cut down in 1882-83, have coppiced well—so it is reported—and the shoots are already 5 to 10 feet high.

Natural reproduction on Sailába and Belás.

119. The Lahore Division alone mentions naturally-sown sissu and mulberry seedlings in their sailába forests, and Shahdara-*cum*-Jugián is the only place where I have seen them. I have no doubt they exist wherever a sissu forest grown on sailába has been felled, and where standard trees have been left; but they are not easily found, and require to be searched for amongst the dense crop of coppice and root-suckers the felled sissu sends forth on lands of this description.

The reports on this point are the same for every division that contains sailába plantations.

The coppicing power of kíkar on such land was specially noted by Gujránwála, where the coppice of this tree obtained a height of 5 to 6 feet in the first year.

Natural reproduction in irrigated plantations.

120. Naturally-sown sissu and mulberry seedlings are observed both in Chánga Mánga and Nág, mulberry forming a vigorous undergrowth in both plantations. Phulái seedlings are coming up in several compartments in Block II, Chánga Mánga forming a good undergrowth. Natural reproduction of farásh was also noticed.

Both in Chánga Mánga and Nág the coppice of sissu, mulberry, farásh, willow, tún and bakáin is very good. Large numbers of root-shoots come up between the lines, and at present the reproduction looks most promising. The coppice is equally good from trees cut flush or stubbed out.

The following is an abstract of the plantation notes at Chánga Mánga :—

Compartment 1 (88·64 acres) felled in 1880-81, *viz.*, 63 acres stubbed, 18 acres cut flush, 7 acres experimental plots. The whole burnt after felling. Kána grass was not taken out. The coppice now is nearly 20 feet high and is gradually killing down the kána.

Compartment 2 (74·65 acres) felled in 1880-81, stubbed, not burnt. Coppice owing to brushwood bad in 1881-82, was burnt over in 1882 (January or February); kána grass not removed. Coppice nearly same height as in compartment 1—kána grass dying out.

Compartments 3 to 5(228 acres) cut in 1881-82, stubbed and burnt over, 12 acres in compartment 5 left standing, and 12 acres not felled till September 1882; kána grass not removed; coppice in compartments 3 and 5 good, 15 feet high. Compartment 4, parts of it good, kána grass still very vigorous.

Compartments 6 to 12 (949 acres) cut in 1882-83, portions stubbed in compartments 6 to 8, others in 9 to 12 cut flush, burnt over the whole area; kána grass kept down throughout 1883-84. Coppice is very good, 5 to 10 feet high. Trenches cleared.

Compartments 43, 39 and 44 (174 acres) felled in 1883-84, cut flush with the ground, 10 to 15 standard trees left per acre, burnt over during April 1884; kána grass carefully removed; trenches cleared. Coppice only just beginning to come up in April 1884.

6.—Cultural Operations.

121. I have given no abstract of form No. 50, as I consider that the form in its present cast gives no real idea of the state of the plantation.

Cultural operations in the higher hills.

122. The area of cultural operations in the higher hills is, with the exception of Kulu, still far behind of what it ought to be, but on my arrival in this Province I found that for several years no nurseries had been made in any but the Kulu Division. Mr. Gisborne Smith, who had for some years given great attention to the construction of nurseries, started with the advantage of having a good many lakhs of nursery-grown plants at his disposal, and, as far as cultural operations go, Kulu is at present far in advance of any other hill division.

The cultivation of deodár by nursery-grown plants must never again be neglected, as it is a method which, under favorable circumstances, is very certain

in its results. The introduction of this manner of cultivation, on a large scale, was advocated as far back as 1867, but did not gain root on account of the frequent failures. It is a method that requires supervision, and the failures in olden times were mainly due to want of it, and to the fact that no proper nurseries existed; but that forest-grown plants were put out into the open grass. However, that it could be made a success even at that time is proved by deodár thickets at Malkandi, Kálatop and Dungri, all planted under different conditions. It was, moreover, in former times the custom to select, for artificial cultivation, the most unfavorable and neglected spots.

Failures in this method of cultivation must occur especially in exposed dry places, and old grassy slopes with southern aspect, and no blame can attach to the planter; on the contrary, if he succeeds in such places, though it may be entirely due to luck that he caught the right year and the right season, he has done a piece of work of which he may be proud, because it is particularly useful.

When the Forest Department has once secured the area of reserves, selected or protected forests, it is not only our duty to re-stock where we exploit, but every acre favorable for deodár growth, and mainly those areas that were devastated by contractors before our time, must as soon as possible be covered or recovered by deodár.

I lay particular stress on the re-afforestation of the early devastated areas, for had they not been particularly good, and favorably situated for export, they would not have been the first to be attacked.

123. *Hazára Division.*—The seed sown last year in the Kághan and Dungagali ranges is reported to have germinated freely. Of course, if continued, the constant sowing out of seed on open places must at last take effect, as some seed must always fall on the right soil, but it is a method the result of which is not easily gauged. I personally saw plenty of young blue pine in the Gallies, but no deodár yearlings.

A hundred pounds of boxwood seed was sown in the Khanpur range, but with what result, whether it germinated or not, is not reported.

Young seedlings in the Gallies have a great enemy in the moles, which burrow underneath them and destroy thousands. Porcupines are another danger to cultural operations.

124. No cultural operations took place in the upper forests in the Rawalpindi Division, and none are so urgently required that I would insist on their being undertaken before the settlement of the reserves is finished.

If our status in that direction is secured, it will be sufficient time to improve some of the upper forests, though, as far as I remember the localities (it was, however, in 1868 that I last examined them), I much doubt the successful introduction of deodár.

I intend to examine the localities on my next visit to the Rawalpindi Division. If the forests are only to be treated as blue pines respectively chíl forests, no great difficulty will be experienced in their management from a forest point of view, as all will depend on excluding cattle and fire, and artificial cultivation need not take place.

125. *Chamba Division.*—No planting was done in this division, as there were no seedlings. Nurseries were, however, at once established in Kálatop in all compartments where it is proposed to cultivate, but we had to begin with a bad seed year and an unfavorably dry season, and, in spite of the greatest care, succeeded in rearing only 15,000 nursery plants.

We have now started a nursery at Kálatop containing deodár, blue pine, silver fir and other trees to supply the Municipal Committee and house-owners at Dalhousie with planting material. Kálatop contains now 71,150 square feet of nurseries which ought to be kept stocked as long as there is a grass slope in the vicinity where a deodár can be planted.

In Kainthli 40,000 square feet of nurseries were established for deodár, and 2,600 square feet as a boxwood nursery.

In Khani two deodár nurseries of 12,100 square feet were established, and in Chatri one of 8,000 square feet; and, finally, in Padri Bohar 17 nurseries aggregating 88,400 square feet. It will thus be observed that 222,000 square feet of nurseries have been established in this division. This is satisfactory.

Other methods of cultivation have been tried. Seed has been sown on patches in exposed places on grass-land in Kálatop and Kainthli; it germinated freely, but at the end of the year hardly ten per cent. of the seedlings were found alive. In favorable positions, as for instance in the Bassu forest, sowings have given extremely good results.

The main advantage of sowing in patches consists in the cheapness, and it should be steadily continued, but I must point out again that the easiest treated spots should be taken in hand first, leaving grassy south slopes to the last, when nursery plants are more common and can be sacrificed without regret for several years in order to catch a favorable season.

Preparing the ground in patches all round seed-bearing trees, as proposed by the Divisional Officer, is highly recommendable.

126. *Beas Division*, Kulu.—It will be observed from the subjoined table that 136,000 nursery plants were put out into the forests, and that 33 maunds of deodár seed were sown in blanks, the cultivation extending over 747 acres, and that at the same time 49 new nurseries were formed.

The extent of cultural operations in this division is without precedence in the annals of arboriculture in the Himalayan hill forests, and I hope, on my way to Pangi, to be able specially to examine this work and to submit a special report on the results thereof.

Name of Plantation	Number of seedlings transplanted	Number of new nurseries formed	Amount of deodár seed sown M.	S.	C.	Remarks
Manalighan ...	1,430	...		...		Transplanted into vacant places; 130 chilgoza also transplanted.
Manalghan ...	2,000	...		...		Filling vacancies.
Dana Bial ...	500	...		...		Do.
Sial Bial ...						
Banaun ...	9,010	1	0	20	0	23 sérs *Prinsepia utilis* sown along fence.
Bai Padru ...						23 sérs sown along fence.
Manalgarh ...	44,685	...		...		23 " "
Dhaini Deo ...	10,091	5	2	23	0	25 " "
Chasal ...	...	3	3	10	0	
Shahhingarh ...	...	2	1	0	0	
Dudlu ...	29,400	12	2	16	0	23 " "
Rahin ...	...	2	0	35	0	
Brinnudhar ...	...	3	2	0	0	22 " "
Padrichalon ...	16,940	1	0	24	0	
Seta Dhag ...	...	2	1	15	0	
Somban ...	...	1	0	14	0	Sown in 622 patches in 17 lines.
Batar Bial ...	5,522	...	0	32	0	25 sérs *Prinsepia utilis* sown along fence.
Deoban ...	...	3	1	8	0	
Jangar Kalam ...	...	1	0	28	0	
Semi (lower) ...	...	1	0	19	0	
Ledi Chalaon ...	...	...	1	30	0	Sown in 1,236 patches in 13 lines.
Fojal Kalaon ...	...	2	1	10	0	
Shejuni ...	...	2	1	29	0	
Gogra Sil ...	...	3	1	2	0	
Sandhar ...			1	0	0	
Bindraban ...	2,578	1	0	17	0	
Jerri ...						
Soma Chaloan ...	7,350	2	4	0	0	Re-stocking area burnt.
Latura ...	1,745	1	0	36	0	
Blajdhar ...	4,124	...		...		
Salano ...	300	...		...		
Bakriala ...	944	...				
Chaliala ...	...	1	2	3	0	
Kotladhar ...	...	...		...		
Dhaogi ...	...	.	1	0	0	Sown in 80 lines.
Total ...	136,619	49	33	11	0	4 maunds 4 sérs *Prinsepia utilis* sown round fences.
Operations in 1882-83 ...	50,922	7	21	0	0	

127. *Bashahr Division.*—On my visit to Bashahr I found plenty of blanks that can, in my opinion, never be completely re-stocked in one rotation by any other method than planting, but I found no nurseries.

The Divisional Officer worked according to the plan of management of 1881, which lays no great stress on this point, but on the contrary remarks on the failures which have taken place where artificial cultivation was tried. These failures, however, were, in my opinion, to a great extent due to want of supervision, and need not deter us.

Naturally it will be a matter of the greatest difficulty to restore the Ranang and Kastrarang forests, but I would not attempt this till we have filled up all our more promising and more favorably situated areas.

It seems to me so natural that we should invest our labor and Government money in the safest and most paying concern before trying uncertain experiments, which if they succeed will only yield a much smaller return.

The construction of nurseries for deodár was at once taken in hand, and the following nurseries established during the year :—

Nachar	...	...	4 nurseries	40,000	square feet.
Tranda	...	...	2 „	20,000	„ „
Nyani	...	...	1 „	10,000	„ „
Kanai	...	...	1 „	10,000	„ „

In addition to this three boxwood nurseries were made at Derkali, Kashapat and Sholtu. At Kanai one acre was planted with forest-grown deodár plants, of which 700 are alive, and in Nachar 1,000 deodár seedlings were picked out of the forest and planted into a nursery, without a single casualty.

Deodár sowings in patches succeeded well near Nachar, but only a poor result was obtained on a dry slope near Panroi.

It may be broadly laid down that sowings below Nachar are almost certain of success, and that the uncertainty of the operation increases in proportion with the dryness of the climate.

Cultural Operations in the Lower Hills.

128. *Rawalpindi Division.*—The efforts in this division have been extremely spasmodic, and I do not believe that any decided results will be attained before such efforts are systematized under a plan of management. It is reported that nurseries have been enclosed and sown in Khairi Murat, and that they have succeeded ; but otherwise the Divisional report is particularly vague on this point.

129. *Beas Division.*—The chíl sowings in the different parts of this division, with the exception of those undertaken in the Hamirpur tahsíl which succeeded, are all reported to have failed more or less for want of rainfall. Bamboo as well as tún cultivation was also not successful.

130. The cultivation in the lower hills in the Jhelum District is still very much in its infancy, and in my opinion the Divisional Officer too ambitiously tries in the outset to deal with sissu and mulberry, instead of more modestly establishing thorny bushes, and perhaps the phulái. The places where sissu can as yet be grown must be very limited in area.

131. The chief cultural operations carried out during the year in the lower hills have been those in the Pabbi reserve in the Gujránwála Division. Operations were here continued on the north of the railway line over an area of 123 acres, and were carried out under the supervision of Messrs. D'Arcy, Carr and Lace. The main part of the work was completed between the 4th of July and the 18th August. The following is a summary of the work done and expenditure incurred during the year :—

	Rs.
Digging and sowing 550,408 running feet of trench and ridge	901
Seed	507
Transplanting work, &c.	162
Bunds	266
Establishment	151
Miscellaneous	259
Total ...	2,266

The trench and ridge system was the method of cultivation employed on an even more extended scale than before. Besides trenching the more or less level plateau, endeavours were made to cultivate the steep sides of all the small hills by trenches dug in contour lines. The trenches were again made at 6 feet apart and usually 1 foot cube, but on the slopes, and especially at the foot of all the hills, trenches 2 feet by 2 feet were dug so as to prevent the formation of water rills, which are the beginning of erosion. By means of the above system, *viz.*, trenching the whole area, hills and all, in exact contour lines, the still more expensive work of erecting bunds may be dispensed with, provided that the trenching is done carefully and exactly; but the trenches must be quite level, or they form a water-course instead of serving for collection of water. Phuláí, kíkar, sissu and jhand were the chief seeds employed, but the following species were also sown either as a mixture or by way of a special experiment: sanatha, chíl, tallow, kher (*Acacia rupestris*), *Prosopis glandulosa*, lahura (*Tecoma undulata*), siris, bamboo, *Celastrus senegalensis*, *Vitex Negundo*, *Feronia elephantum*, *Casuarina* and mango.

The chíl seed again was largely carried away by birds, and, the rains being unfavorable, only some of the chíl germinated; still, up to the end of April some 300 or 400 healthy-looking plants were to be found on the ridges. The other seeds, with the exception of those of *Vitex*, *Feronia*, *Casuarina* and mango, germinated freely. The rains were decidedly unfavorable: a heavy fall took place on the 30th June, this was followed by a heavier one about the middle of July sufficient for the germination of most seeds, and then no rain fell until September. The natural result of this has been that many seedlings which came up in July dried up, and on the whole the plants have not made the same rapid progress that they did in the previous year; a certain amount of seed, however, germinated only in September, and during the spring the young plants improved considerably. A portion of the area had to be re-sown in February, especially as the frost thinned out the kíkar in places; but in spite of all the above enumerated mishaps the greater part of the area is now well stocked with an abundance of young trees, the phuláí showing itself by far the hardiest species and most sure of succeeding. As usual, all the finest plants grow on the deeper trenches when more water is collected.

The smallness of the plants throughout is of course a source of danger during the hot weather. 100 phuláí plants and 350 eucalyptus, jáman, tallow, weeping-willow and poplar were planted in the spring in the ravines and round the Forest bungalow, and they have almost all succeeded so far. A number of chíl transplants were also put out in the ravines, but as the weather is getting warmer they are fast drying up.

In the rains 100 bamboo plants were put out on the sides of the main ravine, but they all failed. The expenditure incurred on the retaining dams was less than that of the previous year; 292 new bunds were built, and 3,598 repaired at a total cost of Rs. 266.

132. *Phillour Division.*—I inspected the Subáthu plantation. The cultural operations have of late years been carried out extremely well, and 225 acres are now almost completely stocked by plants 3 to 5 feet high. Last season was very trying with its almost uninterrupted break from the middle of July to September, and the last season's plants are somewhat backward; various trees, such as walnut, ritha, *Albizzia stipulata*, *Bauhinea variegata*, *Acacia farnesiana*, *Pyrus pashia*, &c., were planted out as roadside trees to the number of 806; they were watered, and thrive well. An impenetrable quick hedge is being grown round the plantation.

Cultural operations in the Plains.

133. The main cultural operations in the plains are carried out in the Gujránwála and Lahore Divisions. In the Phillour Division the plantations sold to the Railway and felled in 1882-1883 were somewhat attended to, and rakh improvements were tried in Mooltan.

The cultural operations in the plains may again be divided into plantation works and rakh improvements.

Plantations.

134. *Gujránwála Division.*—Bela Mohla (23 acres), situated in the Gujrat District, has been added to the plantations of the Gujránwála Division during the year; this bela was ploughed and sown broadcast during the rains, chiefly with tali seed, to which a little kíkar was added; the result is reported as very successful; the expense incurred was Rs. 43.

In July 40 acres of the old plantation Pindi Tatar were sown, at a cost of Rs. 29, with tali, kíkar and a small quantity of doeh, tallow, jhand and ber seed. The sissu seed was chiefly sown broadcast, but the other seeds used were dibbled in here and there; phulái seed was also sown on the spoil bank of the boundary trench, and 2,000 willow slips were planted in low-lying places. This work has partially succeeded, but it remains to be seen if the young seedlings, chiefly of sissu, will be able to struggle against the thick growth of kahi grass.

Thirty acres of Bela Náth were also sown in July at a cost of Rs. 29, kíkar, sissu, jhand, tallow, ber and sanatha being the seeds employed; the various seeds were dibbled in at intervals of about 5 feet, but part of the sissu seed was sown broadcast.

In addition to the above 2,700 willow cuttings were planted along the edges of the nala which runs through the bela; success was moderate in this bela, the seedlings having come up sparingly.

135. *Lahore Division.*—In Chánga Mánga all blanks, even the smallest, in the coppice 6, 7, 8, 11 and 12, and all places wherever the coppice was sufficiently light to permit of germination, seed of sissu and jhand was sown to insure seed-sown plants among the coppice. The success of the operation is difficult to gauge, as, without pulling them up, it is impossible to see the difference between a root-shoot and a seedling. In the jhand compartments 77 to 90 sissu seed was sown and germinated well, and though the pigs did some damage the operation is very promising. In coppice compartment No. 7 a sissu nursery was established to provide for accidental blanks in the coppice.

In the coppice compartments 7, 9, 10, 11 and 12, 27,000 farásh and 1,000 mulberry cuttings were put out; and in compartments 79 and 80, 1,400 farásh cuttings; only half of the mulberry cuttings succeeded, but the farásh cuttings are doing well.

11,229	acres were watered—				
49	„	...	...	...	5 times
146	„	...	...	...	4 „
762	„	...	...	...	3 „
4,129	„	...	...	...	twice,
and 6,143	„	...	...	...	only once.

207 miles of water-courses were cleared, and 138,095 cubic feet of silt was removed from them. The health of the plantation has, of late years, very much improved, with the exception of compartments 13, 14, 15 and 16.

I shall decide next winter whether it will not be better to cut these compartments down and exclude them from the plantation. They can, if necessary, be replaced by new compartments more favorably situated.

The caterpillars appeared again in May, and completely denuded the trees in compartments 13 to 15, 50 to 53, 60, 63, 74 and 75. Starlings again came at the same time in enormous flocks and fed on the caterpillars.

Most remarkable is the undergrowth of mulberry and the appearance of ferns and other small plants in Chánga Mánga, which are not found anywhere in the surrounding country.

The *Nág* plantation was generally attended to, but no new cultural operations were undertaken. In the Jugián coppice the kána grass was removed and every blank place was filled up by some transplants at a cost of Rs. 23.

The *Carob* plot was generally improved. It is now treated more as an ornamental grove than a forest plantation, and more money is spent on the small unsightly plots of kallar ground included in this area than would be the case if it was not so near the Lahore Mall. Besides sissu, jhand, phulái, farásh and willow, the plot contains now 1,536 eucalyptus, 598 carob trees, 15 chinar and 10 *longifolia*, and a large number of plants in pots and nurseries ready to be planted out.

136. *Phillour Division.*—In the Phillour plantation 214,000 running feet of trenching 1′ × 1′ was done in all blank places in the coppice, but owing to the exceptionally dry season 38,800 feet failed and had to be re-sown. In one part of the plantation the roots were stubbed out several feet deep. Mr. Down filled 3,300 of the holes caused thereby with loose earth, and sowed kíkar seed thereon; the experiment succeeded and must be followed up in other divisions as well. A mango nursery was formed containing 1,000 strong healthy plants.

The blanks in the plantation, which are still very numerous, will be attended to.

The *Ludhiána* plantation has met with a succession of accidents; first it was flooded after it had been felled, and then the coppice was burnt down by accident. It is a question which I intend to decide this winter whether it will not be advisable to cut this plantation down, burn it, and start it *de novo.*

Rakh improvements.

137. *Gujránwála Division.*—The operations in Kikranwáli were carried out on last year's principles. We have gained no new information by them, and in themselves they are hardly important enough to be repeated in detail in every annual report; an occasional retrospective report will, I think, suffice.

Rakh Chichra.—In rakh Chichra 3 acres were cultivated on the trench and ridge system at 4½ feet apart; seed of the following species being sown: kíkar, jhand, phulái, mesquit, siris, kher, tallow, chíl, chichra and sanatha; chíl was the only seed which did not germinate, and the kíkar suffered very slightly from frost in January. The greater part of this plot has succeeded admirably so far, the phulái and mesquit especially showing to advantage. One hundred plants were obtained from Lahore and put out in the rakh; with the exception of some jáman, the other trees, but chiefly *eucalyptus,* are growing well here as well as in the Kikranwáli, where some have been put out.

138. *Lahore Division.*—In Kot Lakhpat 80 acres were sown on ridges with sissu, and 26,200 plants of this species were put out, also 10,300 farásh cuttings and 2,500 of willow. The cultivation is on the whole satisfactory.

In Mahmud Buti plants were cleared of kána grass, 900 sissu plants put out, 4,500 running feet of trenching was sown; the expense is little, but success is reported as moderate.

In rakh Dhig 46 acres were fenced and sown with jhand, kíkar and sissu, and 6 acres were planted up with farásh cuttings; success of the operation has been reported. A scheme for re-afforesting rakh Roseh is pending at Colonel Wace's request, who wishes to start a cattle-farm on this rakh.

As none of the petty experiments made with a view of re-stocking rakhs in the Mooltan Division succeeded properly, no further mention of them need be made.

7.—Forest improvement.

139. This includes, amongst other operations, creeper cuttings, but also the cutting out of inferior species in favor of more valuable ones, the extermination of parent trees of a lower character than is desired for the future peuplement of the forests, &c. However, creeper-cutting having been specially mentioned in the instructions for the preparation of the annual reports, none but the officers of Chamba and Bashahr understood the drift of this chapter, and the reports are consequently more than meagre. The Chamba Division reports that the rapid increase of poplars having been noticed in Kálatop some years ago, a large number of them were girdled in 1880, but that as they were only ringed through the bark none of them were any the worse for it. Since then the Divisional Officer killed 2,073, of which 676 being felled, the rest effectually girdled. All guards are supplied with "kukaris," and every poplar sapling is sacrificed.

In Bashahr the tree that has mostly to suffer is the blue pine, an excellent tree itself, but not so valuable as deodár, and very aggressive. It is only in clay soil, which does not suit the deodár at all, that we permit of the blue pine having its own way, as it is preferable to have a healthy peuplement of blue pines than a, from their very youth, seedy and badly-growing crop of deodár.

I trust to be able to make this chapter more interesting in future years.

8.—Exotic and European trees.

139A. As regards the trees in Captain Lee's garden in Kulu, I beg to submit his report as follows:—

Elevation about 5,000 feet. The numbers correspond with the series of belts of trees on terraces counting from west to east.

No. 1.—*Eucalyptus Stuartiana.*—Still make slow progress, but are healthy.
Cork Oak—have made better progress during the past than in former years.

No. 2.—*Acacia Decurrens.*—Little progress, but healthy.
Cupressus Govinsearia.—Made good growth; strong and healthy.

No. 3.—*Tasmanian bluegum.*—Fair progress.
Pinus Cupressus Macrocarpa.—Good progress; healthy and handsome trees.

No. 4.—*Acacia melanoxylon.*—A few trees only, and grow slowly.
Lombardy poplar, beech, maple.—Very few; doing well.

No. 5.—*Eucalyptus goniocalyx.*—Slow progress, but healthy.
Pinus coulteris.—A very few; small.

No. 6.—*Acacia dealbata.*—Done fairly, and are healthy.

No. 7.—*Eucalyptus viminalis.*—Made good progress; strong and healthy.

No. 8.—*Acacia pycnantha.*—Fair growth; healthy.
Eucalyptus oleosa.—(A few only) Slow progress, but healthy.

No. 9.—Slow growth, but healthy.

No. 10.—*Eucalyptus globulus.*—Fair growth.

No. 11.—*Eucalyptus Polyanthemus.*—Slow progress; healthy.

No. 12.—*Eucalyptus fissilis.*—Made good progress.

No. 13.—*Eucalyptus globulus.*—(See No. 10.)

No. 14.—*Olives from* south of France received and planted in spring of 1880; continue to do well, and are now, many of them, in blossom.

No. 15.—*Eucalyptus Sideroxylon.*—Slow growth.
Eucalyptus rostrata.—Fair growth; healthy.
Eucalyptus Paniculata.—A few: very small still.

No. 16.—*Eucalyptus longifolia.*—Made fair growth, and are strong and healthy.

The sugarcane noted in last year's report as left in seed-beds and very small were all killed by frost during the past winter.

There has been very little work done during the past year, and very few coolies have been employed as occasion required, for keeping the small trees clean, repairing roads, &c.

Experiments under Departmental Supervision.

Eucalypti.—Rawalpindi reports 2 alive; Chamba 100. In the Carob plot at Lahore and at Chánga Mánga several thousand trees are growing well. Many that looked seedy were manured and have wonderfully improved. It is yet too early to report specially on the success or otherwise of *Eucalyptus viminalis.*

Carob.—It is again only in the Lahore Division that experiments have been carried out with the necessary care, and, though in my opinion under the worst conditions, with the best success.

In Chánga Mánga and the Carob plot we have several hundred well-grown carob trees, many of which are seeding.

Last year wild carob seed was obtained from Cyprus. In the Lahore Division they were properly attended to and germinated freely. In the Beas Division they are reported to have succeeded fairly well in Bindraban only, and in Rawalpindi they were handed over to the tender mercies of a forester and sown in Khairi Murat and Barakow, and are reported to have germinated. The

success of such experiments and most cultural operations lies in the care and supervision of the Divisional Officer himself, and Mr. Lemarchand deserves credit for the way in which he attends to these and other details of his division.

Special attention to cultural operations is of much greater importance in mountainous and sub-mountainous divisions than in the rakh divisions of Mooltan and Montgomery, and special aptitude or otherwise as regards cultural operations will in future always guide me to some extent in the selection and recommendation of officers for the respective charges.

European trees.

The European trees are left in the very garden in the Ghoragali forest house in the same position as they were originally planted out, and the oak are still 18 inches or 2 feet apart.

There are some European trees planted by us within Dalhousie Municipal limits. Besides these there are now :—

Division	Scarlet oak	English oak	Turkish oak	Elms	Ash	Mountain ash	Larch	Lime	Spanish chestnut
Rawalpindi	...	32	...	40	...	11	...	...	2
Chamba	...	...	...	...	...	...	...	...	3
Kulu	15	84	22	63	...	...	...	...	204
Bashahr	...	...	...	...	...	...	...	...	38

Of the Spanish chestnuts in Bashahr 28 are nine years old and 10 six years. The older ones have borne fruit, and 100 seedlings have already been raised therefrom.

In my opinion Bashahr is the very field for the introduction of edible chestnut.

Mr. Minniken has introduced hundreds of fruit trees, olives and vines, all of which do remarkably well.

9.—Communications and Buildings.

140. *Hazára Division.*—The Kághan road and the road between Nathiagali and Thandiáni are reported to have been put into repair. The houses at Dungagali and Thandiáni were repaired where necessary.

A new bridge was built across the Bhunja stream, and the bridges in Kághan over the Kunhar river were railed off, as they were not safe for laden animals to cross.

141. *Rawalpindi Division.*—A new road, about 4¼ miles in length, was made from the 32¾ mile on the Murree cart-road to the Brewery, at a cost of Rs. 2,380; half the cost being defrayed by the Murree Brewery Company.

This road might have been constructed on a much better line of country.

The Ghoragali house and out-houses were repaired. Three inspection huts were erected in the Murree tahsíl at a cost of Rs. 870; water-tanks were also made at a cost of Rs. 130.

142. *Chamba Division.*—During the year the following inspection paths were made in the Kálatop forest :—

				Rs.	A.	P.
Compartment 12	175	chains	...	57	5	0
" 8, 12, &c.	41	"	...	36	0	0
" 16	40	"	...	20	14	0
	19	"	...	3	12	0
	10	"	...	4	5	0
Total ...	285	"	...	122	4	0

or an average all round of 7 annas per chain of 100 feet.

Roads remain still to be made running through the lower parts of compartments 9, 8, 7, 6, 5, 4, and rising up to the shed; also on the east through compartments 15, 17, 18, 20 to join the road on that side; and then there will be a complete series throughout the forest. Existing roads were kept in thorough repair.

At Bakáin a footpath 2¾ miles long was made from the bridge to the head of the slide at a cost of Rs. 135-6.

A bridle-path, 6 miles 30 chains long, was made from the boundary of the Chatri forest down to Kalel village to join the Chamba road, and then on to the edge of the Suil, at a cost of Rs. 400.

During 1884-85 it is proposed to make inspection paths in the Khani and Chatri forests where reproduction is being carried on. In the Padri and Bohur forests inspection paths would be too expensive, as the hillside is too precipitous.

During the year under report the construction of a timber slide from the Bakani nala—a stream which flows into the river Ravi from the south about 10 miles above Chamba—was commenced; it is expected that it will be completed in September 1884, at a cost of about Rs. 20,000.

The slide will be 12,376 feet long with a fall of 1,650 feet, and is constructed so as to take logs up to 30 feet of length.

It is built on the principle of the southern Alp slides, and, though perhaps not so cheap and light as those built by the professional "borratores" of South Tirol, it is just as strong, if not stronger.

The forest houses at Mádhopore, Kálatop, Kainthli, Bhandal and Tesa were kept in repair. The expenditure at Kálatop was rather high, as the very heavy fall of snow in the winter of 1882-83 knocked down the greater part of the out-houses, and also the quarters of the forest establishment. They have now been rebuilt on a better and stronger plan.

Timber for a new house at Chatri was collected.

A new house was built at Karpok at a cost of Rs. 300.

Foresters' and guards' huts were made at Bhandal, Kainthli, Bakloh, Banikhet, Shahpur and Bheri Shahdara.

143. *Beas Division.*—In the Kulu range the following work was done:

Bridle-path from Bai Padru plantation to Dhana Deo plantation, 4,300 feet, at a cost of Rs. 29-7-6.

" from Jagatsook to Brinundhar plantation, 12,160 feet, at a cost of Rs. 24-12-9.

" from Bosh village to Deoban plantation, 2,640 feet, at a cost of Rs. 13-12-0.

Two miles of the Kanaurn road was realigned by the civil authorities at a cost of Rs. 100, and the Jibi Latura road was repaired.

The Wazír Bholar depôt road was also repaired. Two small bridges at Dhippi and Jibi were put up.

In the Phulga forest a roadway 18 feet broad and 20 feet long was constructed of refuse timber across a hollow, which opened out a large part of the Phulga forest on the west not formerly worked, and in the Dungri forest a slide 60 feet long and 20 feet clear roadway was constructed along a deep and rocky khud.

In the Núrpur range a new house for the forest guard was built within the boundary of the Bindraban reserve on the Núrpur road.

For the convenience of the forest people a shop-keeper has been allowed to build a shop close to the same spot on the roadside within the forest boundary, on the condition that if no longer required the shop must be removed.

A new house was partly erected in the Phulga forest; it is expected to be completed during 1884-85.

The forest ranger's house at Dera, the rest-house at Pandian, the forester's house at Kuni in the Hoshiárpur District, and the Dhamtal bamboo depôt house were repaired. The depôt houses at Wazír Bholar, Nowshera and Nadaon were also repaired.

144. *Bashahr Division.*—The inspection path, commenced last year in the Kilba range, was completed as far as the lower Panwigad. Its total length is 30 miles, of which 10 miles were made during the year at a cost of Rs. 18 per mile. This path is merely a track 2 to 3 feet broad following the configuration of the slopes; where possible it has been kept at the same level, but in crossing the upper Panwigad it passes at a steep gradient through a cliff to Dhippi and Kakstal forests, and descends again to the Melang-gad.

An inspection path half a mile long and 2 to 2½ feet wide was made from the Kunhi road through the Kumkuni forest at a cost of Rs. 15 per mile; and a path from the Jula below Chora to Dulpa forest, Pindrabis, about one mile long and 2 feet wide, at a cost of Rs. 16 per mile, was also made.

The following roads were kept in repair :—

Tikru to Wasangtu forest	... ...	1 mile
Shooloot to Punang Kunda	... ...	4 miles.
Sholtu to Kilba (mule road)	... ...	5 "
Bali to Sungri	... ...	12 "
Brewa to Sangla	... ...	8 "

From the subjoined statement it will be seen that check walls faced with logs on end and level cuttings, wooden shoots of various lengths and gradients, earth slides on which all rocks were blasted; were constructed for working down of timber :—

Name of Forest	Nature of works	Remarks
East Nachar ...	1 check wall 200 feet long	15 ft. high and 10 ft wide
" ...	3 " 50, 45 and 20 feet long, and averaging ..	5 " 4 "
Junpan ...	1 " 80 ft long	10 " 4 "
Phinla ...	3 " 48, 35 and 28 feet long, and averaging ...	8 " 6 "
Wachumchi ...	1 " 80 feet long	6 " 6 "
Yani ...	4 " 280, 115, 85 and 50 feet long	12 " 8 " Averaging.
Tenden ...	9 " 82, 60, 55, 45, 43, 40, 30, 25 and 20 feet long ...	7 ft high and 6 ft. wide.
Kunhi ...	4 " 159, 124, 58 and 40 feet long — ...	10 " 8 "
Dulpa ...	1 " 130 feet long	10 " 3 "
	Wooden Shoots	
Tenden ...	5 slips 506, 223, 165, 45 and 44 feet long (total 983 feet) ...	5 feet wide.
East Nachar ...	4 " 300, 250, 225 and 200 feet long (total 975 feet) ...	5 "
Junpan ...	2 " 150 and 60 feet long (total 210 feet)	5 "
Phinla ...	1 " 80 feet long	5 "
Kunhi ..	1 " 204 feet long	5 "
	Retaining-walls	
East Nachar ...	175 feet long, 6 feet wide and 3 feet high	
Tenden ..	240 " " 5 " " 4 " "	
Kunhi ...	204 " " 4 " " 3 " "	
Dulpa ...	200 " " 10 " " 6 " "	
Yani ...	649 " " 5 " " 6 " "	
	Earth slides	
East Nachar ...	1,850 feet long and 20 feet wide	
Kunhi ...	514 " 20 "	
Yani ...	1,361 " 20 "	
Dulpa ...	5,465 " 20 "	

The forest house at Simla was nearly dismantled and rebuilt with an upper storey and a new range of out-houses; two new rest-houses were built at Dharu and Khasawara in the Neogli range, at a cost of about Rs. 350 each.

145. *Jhelum Division.*—A hut was built at the Baruti timber depôt for shelter of the guards stationed there at a cost of Rs. 51, and a rest-house was erected for the forest ranger and guards in the Chak Nizám depôt at a cost of Rs. 130. A building is in course of erection in rakh Gandhala near Choa Sadan Shah (Salt Range) for the use of the forest ranger of the Pind Dádan Khan range.

The following annual repairs have also been executed:—

	Rs.
Jhelum forest bungalow (Civil lines) and out-houses at a cost of	153
Jhelum forest bungalow (cantonments) at a cost of	150
Forest rest-house at Dilur and out-houses at a cost of	184
Forest hut in rakh Drengan	111

146. *Gujránwála Division.*—The road running through rakh Kikranwáli in the Gujránwála District was repaired; a bridle-path was made in the Pabbi plantation, Gujrát District; and in the Phalián range, the road running through rakh Tibbi Tarar was trenched on either side and repaired at a cost of Rs. 20; the forest houses at Wazirabad and Bannu were repaired at a cost of Rs. 23 and Rs. 34 respectively.

Lahore Division.—In the Chánga Mánga plantation 108 miles of compartment roads were cleared of grass and jungle, and 103 bridges rebuilt over water-courses.

In Shahdara 5 new roads were cut through the plantation at a cost of Rs. 40-6-6.

In Mahmúd Buti 7,392 feet of roads were cleared of kána grass at a cost of Rs. 4-5-0.

In Jugián a road 4,980 feet long and 25 feet wide was made with trenches at either side at a cost of Rs. 32-14-0.

In Kot Lakhpat 3 new roads 10,115 feet long and 24 feet wide were made at a cost of Rs. 14-15-0. Two bridges were also made over the rajbáha.

Four masonry stop dams were built in Chánga Mánga, *viz.*, two in the Gandián and two in the Shahpur rajbáhas, at a cost of Rs. 272-13; these have proved of great use.

Existing buildings were repaired.

148. *Mooltan Division.*—A public road through the Aliwál reserve in the Montgomery District was fenced on either side, and nearly 3 miles of compartment lines in Okára reserve were cleared.

In the Vinoi reserve, Mooltan District, a compartment line 10 feet wide and nearly a mile long was cut between compartments 1 and 2.

In the Khanwah reserve a road 1 mile long and 20 feet wide was made. Three new mud huts were erected for the use of guards in the Montgomery District, and one forester's house repaired in the Mooltan District.

149. *Phillour Division.*—Two new roads 24 feet broad were made through the length of the Ludhiána plantation at a cost of Rs. 16-8-0; and in the Subáthu plantation a new inspection path 3,570 running feet, 2 feet wide, was made in the new extension at a cost of Rs. 30-13-6.

36,933 running feet of paths in the old plantation were repaired at a cost of Rs. 30-8-0.

The forest bungalow at Kalesar was re-roofed and thoroughly repaired, together with the out-houses, at a cost of Rs. 280-14-0. A new hut for the forester and guards was partly built at a cost of Rs. 240-12-6. A revised estimate will be submitted, as the hut will cost more to finish than was sanctioned, owing to the greater difficulty in procuring earth and water than was at first anticipated.

A guard's hut was erected at Chanauli transit depôt in the Hoshiárpur District, at a cost of Rs. 15. A depôt hut was erected at Rúpar at a cost of Rs. 15.

The forest houses at Phillour and Palhan were repaired. Guards' huts in the Jullundur and Subáthu plantations were also repaired.

CHAPTER IV.—YIELD AND WORKING.

1.—Departmental Operations.

150. Abstracts of forms 58, 59, 60, 61 and 62 show—

(*a*) Number of trees felled during the year by departmental agency;

(*b*) Outturn of timber and other produce cut and collected by Government agency;

(*c*) Timber received in sale depôts;

(*d*) Timber removed by purchasers from sale depôts;

(*d*2) Timber removed from the forests and sold locally;

(*e*) Timber account of the year.

A.—Trees felled during the year.

Divisions	Deodár	Pine	Other trees	Total
Hazára	...	...	323	323
Chamba	2,499	223	...	2,722
Beas	549	...	...	549
Bashahr	1,975	16	...	1,991
Total ...	5,023	239	323	5,585

B.—Abstract of outturn of timber and other produce cut and collected by Government agency during the year.

Divisions	Deodár logs	Pine logs	Sleepers	Other pieces	Scantlings	Total
Hazára	256	...	...	...	18,020	18,276
Rawalpindi	...	...	...	210	161	371
Chamba	7,485	...	7,522	...	11,684	26,691
Beas	1,775	...	5,543	140	33	7,491
Bashahr	9,590	83	...	...	...	9,673
Lahore	...	...	...	800	...	800
Phillour	...	...	...	1,005	...	1,005
Total ...	19,106	83	13,065	2,155	29,898	64,307

Add—Hazára Division—Shingles ... 177,108 pieces
Rawalpindi " Firewood ... 100 maunds
" " Charcoal ... 10,226 "
" " Bamboos ... 9,538 "
Beas " " ... 668,825 pieces
Lahore " Firewood ... 2,103,718 cubic feet

C.—Timber received in Sale depôts from the forests.

Divisions	Deodár logs	Pine logs	Sleepers	Scantlings	Other pieces	Miscellaneous	Total Number	Total Cubic feet
Chamba	509	145	11,663	12,064	11,924	...	36,305	55,062
Beas	1,237	125	323	22	1,358	1	3,066	49,708
Bashahr	1,770	51	...	...	1,220	...	3,041	39,730
Jhelum	9,514	13,356	771	5,640	2,463	...	31,744	587,711
Gujránwála	3,617	44	568	...	116	1	4,346	63,058
Lahore	...	...	...	...	800	...	800	...
Phillour	12,015	685	14	...	3,993	...	14,907	235,829
Total ...	26,862	14,406	13,339	17,726	21,874	2	94,209	1,031,098

Add—Rawalpindi Division		Charcoal	...	8,944 maunds
"	"	Bamboos	...	9,538 pieces
Chamba	"	Firewood	...	18,783 cubic feet
Beas	"	"	...	9 pieces
"	"	Bamboos	...	668,825 "
Gujránwála	"	Firewood	...	335 cubic feet
Lahore	"	"	...	2,092,906 "
Phillour	"	"	...	6,075 "
"	"	"	...	4,350 maunds

D 1.—*Timber removed by Purchasers from Depôts.*

Divisions	Deodár logs	Pine logs	Sleepers	Scant-lings	Other pieces	Miscel-laneous	Total	
							Number	Cubic feet
Rawalpindi ...	...	...	...	444	...	...	444	...
Chamba ...	1,531	145	19,670	10,669	13,275	...	45,290	101,432
Beas ...	71	25	16,563	398	464	...	17,521	43,335
Bashahr ...	19	...	...	600	468	...	1,087	1,311
Jhelum ...	6,094	13,783	15,011	1,599	1,811	...	38,298	489,489
Gujránwála ...	2,013	43	12,677	1,068	8,651	1	24,453	66,120
Lahore ...	...	...	...	...	800	...	800	...
Phillour ...	7,144	686	12,539	...	1,903	...	22,272	149,024
Total ...	16,872	14,682	76,460	14,778	27,372	1	150,165	869,539

Add—Rawalpindi Division		Firewood	...	10,343 maunds
"	"	Charcoal	...	11,327 "
"	"	Bamboos	...	13,362 pieces
Chamba	"	Firewood	...	18,783 cubic feet
Beas	"	"	...	9 pieces
"	"	Bamboos	...	668,825 "
Gujránwála	"	Firewood	...	304 cubic feet
Lahore	"	"	...	1,950,305 "
Phillour	"	"	...	754 maunds
"	"	Bamboos	...	5,792 pieces

D 2.—*Timber removed and sold locally.*

Divisions	Deodár logs	Pine logs	Sleepers	Scant-lings	Total	
					Number	Cubic feet
Hazára	...	...	...	16,953	16,953	20,438
Rawalpindi	210	...	...	424	634	...
Chamba	203	19	...	5,940	6,162	11,003
Beas	1	...	...	1,670	1,671	3,483
Gujránwála	...	...	1	...	1	3
Lahore	...	...	...	...	...	111
Phillour	2	...	...	222	224	13
Total ...	416	19	1	25,209	25,645	35,051

Add—Hazára Division		Shingles	...	170,108 pieces
Rawalpindi	"	Firewood	...	16,869 maunds
Beas	"	"	...	5 "
Gujránwála	"	"	...	3,450 cubic feet
Lahore	"		...	10,601 "

Timber account of the year.

	Number	Cubic feet		Number	Cubic feet
Balance at commencement of the year	43,837	335,760	Removed by purchasers	150,165	869,539
Received from the forests in depôts during the year	94,209	1,031,098	Sold locally ...	25,645	35,051
Received by conversion in depôts	64,041	82,718	Converted into sleepers	8,970	155,197
Purchased from vendors	14,339	21,508	Rafted to other depôts	4,981	10,470
Received from the forests and sold locally during the year	25,645	35,051	Used departmentally	1,855	2,337
Received from the forests locally and used departmentally	63	46	Returned to vendors	2,538	3,807
Received by transfer from other classes	3,101	5,059	„ owners	11,504	199,471
			Transferred to other classes	3,101	5,059
			Lost by measurement	...	284
			Balance at close of year	36,476	230,025
Total ...	245,235	1,511,240	Total ...	245,235	1,511,240

WORK IN THE UPPER RIVERS.

151. A comparison of the trees felled during the present and previous years—

1882-83	...	...	...	7,204 trees
1883-84	...	...	...	5,585 „

shows a decrease of 1,619 trees.

In deodár there is a decrease of 914 trees, in pines 355, and in other trees a decrease of 350.

152. No felling of deodár took place in the Hazára Division, but 323 trees of kinds were felled in the Dungagali range for the supply of scantlings to the public.

During the year 2,644 logs were launched from the forest of Nurri and Sukka Kussi in the Khágan range. All stranded logs between Malkandi and Sáligrám were counted and found to number 2,700.

153. No fellings took place in the Rawalpindi Division.

154. Of late years the fellings in the Chamba Division have been extremely scattered, but this sort of felling had to be stopped during the year, as most of the streams are completely filled with logs from former fellings with, to judge from former experience, but a periodical chance of being carried down by extraordinary floods. I disapprove of this system of exploitation under which rough logs are launched into small side-streams and are left to find their way down in the course of years, or not at all, as the case may be.

The work in Chamba was originally started on these lines, and has been carried on in the same way from year to year.

During the year under review work was concentrated in the Padri and Bohar forests on the Ravi about 12 miles above Chamba, where the logs are brought out by means of a slide and launched directly into the Ravi.

806 dead deodár trees were, however, felled in the Pangi range, and 234 deodár and 223 pine trees in Kálatop, for the supply of scantlings to the station of Dalhousie.

During the year 7,320 broad-gauge sleepers were launched into the Suil from the Chatri forest.

155. *Beas Division.*—During the year under report 549 deodár trees were felled in the Kulu range. Of these, 315 trees were felled in the Bindraban and Phulga forests, and 234 trees in the Dungri Dana Bial and Manalghan forests. The fellings in both cases were justified by a very good advance growth. The complete re-stocking of the areas will be easy.

The trees felled in Bindraban and Phulgi were converted into 1,772 logs, while those felled on the Beas proper are kept ready for logging and launching during 1884-85.

The work done in the forest is exhibited as follows:—

Remaining from previous year	...	...	398	logs
Converted during the year	...	...	1,772	"
	Total	...	2,170	"
Launched	...	...	1,625	"
Used departmentally ...	...	...	4	"
Remaining in forests ...	...	...	541	"
	Total	...	2,170	"

5,543 narrow-gauge sleepers were sawn in the Bindraban and Manalghan forests.

156. *Bashahr Division.*—The fellings comprised 1,505 green deodár trees, 470 dry trees, and 16 pine.

245 unlogged trees were on hand from the previous year, making a total of 2,236 trees. Of these, 1,780 trees were converted into 9,673 logs, leaving a balance of 456 unlogged trees at the end of 1883-84.

During the year 10,045 deodár and 83 pine logs were launched, leaving 5,572 deodár and 252 pine logs in the forest.

The average cubic contents of logs launched was 25·31 cubic feet, against 24·62 in 1882-83 and 23·71 in 1881-82, showing a steady increase in the size of logs.

The river rose twice during the year to flood height, and about 2,150 logs remained stranded at the end of the year.

Property marks were put on 1,400 pieces of waif, and the sweeping party landed 1,163 logs and 985 pieces at Suni depôt and 650 logs at Naila.

409 logs were also landed at Jeori and Biláspur for conversion into sleepers.

Foreign timber for which launching passes were granted amounted to 11,050 deodár and 6,058 pine sleepers. The former came principally from Mandi territory, where the forests are in a fair way of being exterminated.

Receipts in Depôt.

157. There is a decrease in the quantity of timber brought to depôts, as exhibited in Table C, of 81,073 cubic feet, comprising 136 deodár logs, 9,479 pine logs, 19,385 sleepers, 3,736 scantlings and 1,055 other pieces.

158. *Chamba Division.*—Owing to there being no floods in Chamba during the year, the receipts in depôt were very small, and in Shahdara depôt 1,100 deodár logs, 1,098 pine logs and 3,140 sleepers less were received than in the previous year. In the *Kálatop* depôt there is also a slight decrease, only 4 sleepers and 12,064 scantlings containing 13,587 cubic feet having been brought to depôt, against 1,130 sleepers and 12,429 scantlings containing 18,307 cubic feet the year previous. This, of course, is entirely in our control, and we follow the market. If the demand is brisk the timber is forthcoming; if slack, we stay the supply so as, if possible, not to lower the price.

159. *Beas Division.*—In the Beas depôt, though 881 deodár logs were received in excess of the year previous, there is a falling-off of 3,460 cubic feet. An explanation of this has at once been called for, and will be noted in next year's report.

160. *Bashahr Division.*—In the Bashahr sale depôt at Suni 1,770 deodár logs, 51 pine logs and 1,220 other pieces, containing 39,730 cubic feet, were landed for the supply of Simla.

161. *Jhelum Division.*—In the Jhelum sale depôt there is a decrease of 5,860 deodár logs, 8,544 pine logs and 11,879 other pieces; and though there is an excess of 771 sleepers and 3,066 scantlings, this alters the gross cubic contents of timber received not very materially, and we find a decrease of 90,228 cubic feet against last year.

The decrease is owing to there being no heavy floods, whereas in the previous year extraordinary high floods brought down the accumulation of timber of years.

Timber bearing Government marks amounts to 91,724 cubic feet, unmarked timber to 305,461 cubic feet, and timber bearing traders' marks to 186,602 cubic feet. The timber bearing Government marks was of a superior quality to that received in previous years.

162. *Gujránwála Division.*—In the Chenab river range which collects the timber from the Chamba Division, Pangi range, the receipts are as follows :—

Marked	3,617	deodár logs	...	60,436 cubic feet
Unmarked	167	" "	...	2,463 "
Marked	44	pine "	...	645 "
Unmarked	113	" "	...	1,537 "

568 marked and 53 unmarked sleepers, 1 miscellaneous log, and 116 scraps and pieces, altogether 63,058 cubic feet of marked and 4,567 cubic feet of unmarked timber, were received, showing a decrease of 354 cubic feet.

The deodár logs received were originally launched in the following years :—

1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	Without year	Broken	WXI XW	Total
1	2	1	...	3	4	1	28	23	96	10	137	1,084	644	...	551	117	15	3,617

The tables for the last two years are very instructive, for whilst they show that the bulk of timber takes two years to reach our depôt from Pangi, this year's statement proves that a large quantity can reach in the first year. This may be due to early launching or other circumstances over which we have control, and if so, would be of the greatest importance.

The Divisional Officer has been called on for a detailed report.

163. In the Phillour Division, which collects the Bashahr timber, 4,367 deodár logs, 171 pine logs, 1,502 scraps and pieces, and 14 sleepers were received in excess of the previous year, exhibiting a total increase of 68,395 cubic feet more collected than last year.

Sales at Depôts.

164. 87,386 cubic feet of timber have been sold in depôts in excess of the previous year.

All divisions except Chamba show an increase in sales at depôts.

Of the 76,400 sleepers shown in Table D, nearly 60,000 were supplied to the Rewári-Fírozpur (State) Railway, and were procured mostly by conversion of second-class deodár timber forming part of our depôt stock.

The following average prices per cubic foot were realized :—

Description of timber	Hazára Division	Rawalpindi Division	Chamba Division	Beas Division	Jhelum Division	Gujránwála Division	Philibur Division	REMARKS
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Deodár logs ...	...	...	0 7 5	0 14 3	0 8 0	0 8 10	0 7 8	(a) B. G. 2 10 7 each
Pine, " ...	...	...	0 4 9	0 6 7	0 3 6	0 5 6	0 4 7	N. G. 1 10 2 "
Sleepers ...	...	...	(a) 2 2 0	(b) 2 5 0	1 14 0	(d) 3 13 6	1 15 0	(b) B. G. 2 10 0 "
Scantlings ...	0 10 6	0 5 6	...	(c) 5 6 4	...	...	...	N. G. 2 0 0 "
Waste wood ...	...	...	...	12 0 0	0 0 9	...	1 8 0	(c) per piece
								(d) B. G. 2 9 0 each
								B. G. 1 13 9 "
								N. G. 1 6 8 "
								N. G. 1 14 0 "

The prices realized at Kálatop were as follows :—

	Rs.	A.	
Deodár scantlings	1	6	per cubic foot
Tos	0	8	"
Chíl	0	8	"

Local exploitation and sales.

165. In the *Hazára Division* over 300,000 of shingles less were prepared than during the previous year, and only 170,108 were sold against 490,115 during 1882-83. This was one of those passing demands due to the erection of public buildings.

166. In the *Rawalpindi Division* no firewood was brought to depôt during the year, but 10,343 maunds of the old stock were sold. 16,896 maunds were cut and sold locally.

167. *Chamba Division.*—The smaller outturn of scantlings from the Kálatop, Kainthli and Bakloh forests has already been mentioned.

No timber was supplied to Bakloh.

A temporary depôt was opened, as an experiment, at Surkigali just below Dalhousie, with the object of not only supplementing the supply from Kálatop, but to keep the sawyers and carpenters employed during the winter months, for the scantlings will be cut down below at Sherpur on the Ravi and then be carried up to Surkigali.

Whether this will be remunerative with the decreasing demand for timber at Dalhousie is doubtful.

168. The outturn of bamboos in the *Beas Division* has decreased by 88,760. This was necessary, as the reproduction could not keep pace with exploitation.

169. *Lahore Division.*—Departmental operations consisted of the following clear cuttings: Chánga Mánga, compartment 44, 43, 39 = 174 acres = 337,375 cubic feet, or 1,938 cubic feet per acre.

Thinnings in Chánga Mánga amounted to 1,465,180 cubic feet, and in other reserves to 290,351 cubic feet. 2,092,906 cubic feet were stocked and 1,950,305 cubic feet of wood were sold during the year, leaving a stacked and unsold balance of 337,375 cubic feet. 10,601 cubic feet of wood was also sold locally.

The selling rates remain the same as last year.

The rates of felling, cutting and stacking amount to 9 to 10 annas per 100 cubic feet, having been considerably reduced as compared with the rate of the previous year.

170. In the *Mooltan Division*, Muzaffargarh District, 13,050 cubic feet of wood were cut and stacked, and 12,050 cubic feet supplied to the steamer *Aid*. 2,700 cubic feet of wood were cut in the Dera Ghází Khan rakhs for this steamer.

2.—Removal of produce by purchasers.

171. The following is an abstract of the total of all forest produce removed by purchasers :—

Materials removed from the forests by purchasers.

Description of produce		1882-83	1883-84	More	Less
Deodár trees	... ...	428	316	...	112
Other „	... ...	1,5370	13,942	...	1,428
Poles and dry logs	... ...	3,991	1,021	...	2,970
Firewood, cubic feet	... ...	2,603,059	5,569,449	3,506,390	...
„ maunds	... ...	185,705	55,088	...	130,617
„ pieces	... ...	1,610	94	...	1,510
„ loads	... ...	7,991	82,060	74,069	...
Charcoal, maunds	... ...	6,406	4,550	...	1,856
Bamboos, number	... ...	11,180	11,942	762	...
Coal, tons	... ...	354	317	...	37
Stone, cubic feet	... ...	95,814	21,350	...	74,464
Grass, maunds	... ...	92,596	4,608	...	87,988
„ loads	... ...	1,542	76,538	74,996	...

172. In the Hazára Division 82 chíl and 117 other trees, and 179 pieces of dry timber, were sold. The quantity of firewood exceeded largely that disposed of in the previous year.

173. In the Rawalpindi Division 634 chíl and 269 other trees were disposed of, and the quantity of firewood sold was nearly double that of the previous year. There was a slight decrease in the sale of bamboos.

174. In the Kulu valley 316 deodár trees were sold locally at zamíndári rates of Re. 1 per tree. There was a good demand in the Beas Division for chíl trees, and fair prices were obtained. In the Gujránwála Division 123,000 cubic feet of firewood were sold locally.

175. In the Lahore Division 419 trees of kinds, mostly kíkar, were disposed of at extremely good rates, while 1,300,137 cubic feet of firewood and 999,359 cubic feet of brushwood were sold from the rakhs.

176. In the Mooltan Division 2,602,539 cubic feet of firewood were disposed of, most of the wood being again sold to Rái Mela Rám, contractor to the Sind, Punjab and Delhi Railway.

177. 3.—*Free grants of Forest Produce.*

Divisions	Deodár	Pine	Other trees	Total	Remarks
Rawalpindi ...	...	370	15,712	16,082	
Chamba ...	259	381	11	651	
Beas ...	786	19,147	406	20,339	273 deodár, 1,044 pine and 259 other trees given to Public Works Department.
Bashahr ...	221	6,823	2,058	9,102	181 deodár, 40 poles ; 657 blue pine, 6,160 poles ; 50 other trees, 2,008 poles.
Total ...	1,266	26,721	18,187	46,174	

178. There is a decrease of 14,249 in the number of trees given away in free grants. The grants in the Bashahr Division appear nearly three times as great

as they were in the previous year, but they comprise a large number of trees thinned out departmentally which we could not dispose of otherwise.

Free grants in the Rawalpindi Division show a decrease of 4,497, though had all the trees applied for been granted there would have been a considerable increase, as applications for 13,405 trees were refused pending better arrangements being made for regulating such grants. In my opinion these free grants are still excessive. Of the trees granted in the Beas Division 14,328 were granted in the Kulu valley, and of the 786 deodár trees 273 were granted to the Public Works Department chiefly for the building of a new tahsíl at Plach and repairs to the Kulu tahsíl. 172 deodár trees were granted to the people from fields, 309 were paid for at zamíndári rates, and 30 trees were granted to Mr. Carleton for the building of a Mission house and hospital at Aini.

Divisional Officers will be called upon in future years to calculate the market value of material removed under free grants and permits.

179. 4.—*Summary of produce removed from the forests.*

Description of produce	1882-83	1883-84	More	Less
Trees and poles cut	80,212	61,453	...	18,759
Firewood, cubic feet stacked	3,578,217	5,646,846	2,068,629	...
" maunds	231,226	71,962	...	159,264
" pieces	1,610	94	...	1,516
" loads	7,991	82,060	74,069	...
Charcoal, maunds	9,759	4,550	...	5,209
Bamboos, pieces	787,759	699,381	...	88,378
Coal, tons	354	317	...	37
Stone, cubic feet	95,814	21,350	...	74,464
Grass, maunds	92,640	4,608	...	88,032
" loads	1,542	76,538	...	...

180. 5.—*Imports and exports of timber.*

River by which timber was exported	Territory from which the timber came	Deodár logs	Pine logs	Sleepers	Scantlings	Bamboos, &c.
Ravi ...	Kashmir ...	8,129	1,356	11,505	21,427	...
Beas ...	Mandi and Kapurthala ...	...	...	...	63,118	...
Sutlej ...	Native States ...	...	...	64,736	1,243	67,775
Jhelum ...	Kashmir ...	...	...	44	246,768	...
Chenab ...	" ...	22,212	1,284	220,081	...	59,684
	Total ...	33,246	3,310	296,366	332,556	127,459

The figures compare as follows with those of 1882-83 :—

Description of timber	1882-83	1883-84	More	Less
Deodár logs ...	28,547	33,246	4,699	...
Pine " ...	1,799	3,310	1,511	...
Sleepers ...	273,883	296,366	22,483	...

181. In comparing the above figures with those of timber removed from the Government forests, the following results are obtained :—

	Deodár logs	Pine logs	Sleepers
Timber removed by Government agency from forests under British control	22,746	13,169	12,689
Timber imported from foreign territory...	33,246	3,310	296,366
Total in 1883-84 ...	55,992	16,479	309,045
" in 1882-83 ...	55,545	25,684	306,667
Increase ...	447	...	2,378
Decrease ...	...	9,205	...

CHAPTER V.—FINANCIAL RESULTS.

182. Full details of the financial results will be found in statements Nos. 53 to 57 appended to the report.

183. The financial results compare favorably with those of previous years, and exhibit a larger surplus than that for 1882-83.

Year	Receipts	Charges	Surplus
	Rs.	Rs.	Rs.
1882-83	7,66,709	5,60,750	2,05,959
1883-84	9,10,177	6,53,146	2,57,031

The gross revenue is higher by Rs. 1,43,468, while the expenditure is also higher by Rs. 92,396.

The increase in expenditure is partly due to the cutting of large quantities of firewood in the Lahore Division, to the payment of compensation in the Rawalpindi Division, and to charges for the supply of sleepers to the Rewári-Fírozpur (State) Railway, but mainly to the payment of Rs. 60,000 to the Kashmir Darbár under the orders of the Government of India.

If allowance is made for this amount, which is really an extraordinary expenditure, the surplus stands at Rs. 3,17,031, or 34·73 per cent. of the gross revenue.

The value of the year's transactions was :—

	Rs.
Cash surplus	2,57,031
Difference of stock in sale depôts against the year ...	38,574
Value of the year's transactions	2,18,457

Comparing this with the results of the two previous years—

	Rs.
1881-82	1,67,804
1882-83	2,14,144
1883-84	2,18,457

There is an increase over 1882-83 of Rs. 4,313, and of Rs. 50,653 over 1881-82.

184. The following table exhibits the receipts and charges when re-distributed for purpose of inter-divisional comparison :—

Divisions	Receipts	Charges	Surplus	Deficit
Hill Divisions	Rs.	Rs.	Rs.	Rs.
Hazára	88,832	68,508	20,324	...
Rawalpindi	49,340	39,479	9,861	...
Chamba	1,26,851	89,221	37,630	...
Beas	83,155	81,064	2,091	...
Bashahr	98,021	70,072	27,949	...
Plains Divisions				
Jhelum	75,050	1,17,136	...	* 42,086
Gujránwála	96,950	39,508	57,442	...
Lahore	1,50,698	64,326	86,372	...
Mooltan	1,24,339	22,383	1,01,956	...
Phillour	16,912	19,855	...	2,943
Direction	29	41,594	...	41,565
Total ...	9,10,177	6,53,146	2,57,031	...

* Includes Rs. 60,000 paid to His Highness the Mahárája of Kashmir.

185. The surplus in the Hazára Division is better than in the previous year, though the division is still burdened with the unremunerative cost of the demarcation of the village forests.

In the Rawalpindi Division the large imports of fuel have materially checked the operation of the Department; and in addition there have been very large payments during the year on account of compensation awards.

In the Chamba Division the surplus has exceeded my anticipations, it is true, but is still extremely small compared with the amount of timber felled and logged.

The surplus in the Beas Division is a good deal reduced by the cost of the Kulu demarcation.

In the Bashahr Division there is a falling-off, partly due to the payments of compensation awards in Kotkai and Kotgarh. The three large plain divisions have again shown a very satisfactory surplus, and in the Jhelum Division there would have been a larger surplus than in the previous year had not the payment of Rs. 60,000 to the Kashmir Darbár been charged to this division.

In the Phillour Division the deficit is larger than in the previous year, owing to the receipt of large quantities of timber in the sale depôts.

186.

	Receipts		Charges		Surplus	Deficit
		Rs.		Rs.	Rs.	Rs.
I. Departmental timber operations ...	I and III	4,91,404	I, III, V, ½ VI & ⅓ B	3,46,841	1,44,563	...
II. Other revenue ...	II, IV & V	4,18,773	II, IV, ¼ VI, IX, and ⅓ B	1,19,337	2,99,436	...
III. Formation, improvement and protection of forests ...	...	...	¼ VI, VII, VIII and ⅓ B	1,86,968	...	1,86,968
Total ...	...	9,10,177	...	6,53,146	2,57,031	...

The figures as compared with the previous year are as follows :—

		1882-83		1883-84	
		Surplus	Deficit	Surplus	Deficit
		Rs.	Rs.	Rs.	Rs.
I	Departmental timber operations ...	1,07,407	...	1,44,563	...
II	Other revenue ...	2,60,140	...	2,99,436	...
III	Protection, &c. ...	...	1,61,588	...	1,86,968
	TOTAL ...	2,05,959	...	2,57,031	...

Outstandings and Liabilities of the Department.

187. The outstandings due by contractors and disbursers amounted to Rs. 20,815 at the commencement of the year, and to Rs. 31,593 at the close of the year. This total includes the item of Rs. 3,400 referred to in last year's report, for the recovery of which the Financial Commissioner has sanctioned the institution of a civil suit, and Rs. 11,100 standing against Dín Muhammad, contractor for the Bakáin slide, and this amount is fully covered by work done.

Outstandings on account of Revenue.

These at the commencement of the year were Rs. 19,292 as against Rs. 14,062 at the close of the year.

This includes outstandings on account of grazing dues, which amount to Rs. 9,776.

BERTH RIBBENTROP,

Conservator of Forests, Punjab.

STATEMENTS.

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Reserved Forests, 1883-84.

Division or Range	Civil District or Territory	Name of Forest	Area on 1st April 1883 — Equivalent in square miles	Added during the year — Square miles	Excluded or transferred to other heads — Square miles	Area on 31st March 1884 — Equivalent in square miles	No. and date of Notification of addition or transfer	Remarks
Hazara	Hazára ...	Dungagali ...	63	...	...	63		
		Kághan ...	90	...	...	90		
		Siran Valley ...	33	...	...	33		
		Khánpur ...	50	...	...	50		
		Total ...	236	...	...	236		
Rawalpindi	Rawalpindi...	Rawalpindi.						
		Márgalla ...	38	...	...	38		
		Baingala ...	1	...	...	1		
		Tamaira ...	7	...	...	7		
		Maira ...	2	...	...	2		
		Attock.						
		Kherimár ..	6	...	...	6		
		Kawágarh ...	7	...	...	7		
		Fatahjang.						
		Khairi Murat ...	29	...	...	29		
		Kauliál ...	2	...	...	2		
		Gujar Khan-Baghám	12	...	...	12		
		Total ...	104	...	...	104		
Chamba	Chamba ...	Darwás ...						
		Kailár ...						
		Sánch ...	66	...	...	66		
		Purti —						
		Tindi ...						
		Kálatop ...	4	...	...	4		
		Kainthli ...	1	...	...	1		
		Bakloh ..	2	..	...	2		
		Bannikhet ...	1	...	...	1		
		Ravi, Suil and tributaries ...	122	...	...	122		
		Total ...	196	...	...	196		
Beas	Hoshiárpur ...	Panjál ...	3	...	...	3		
		Lohara ...	7	...	...	7		
		Darni ..	5	...	...	5		
		Karnpur ...	6	...	...	6		
		Bindraban ...	4	...	...	4		
	Amritsar ...	Gagriwál ...	1	...	...	1		
	Gurdáspur ...	Bagárián and Mullanwal ...	1	...	...	1		
	Kángra ...	Dera ...	17	...	...	17		
		Núrpur ...	16	...	...	16		
		Total ...	60	...	...	60		
Bashahr	Bashahr	Bashahr ...	135	45	...	180		
		Total ..	135	45	...	180		
Jhelum	Jhelum ...	Jhelum.						
		Salt Range ...	117	18	...	135	...	Punjab Government Notification No. 350, dated 15th August 1883.
		Islands on River ...	2	...	...	2		
		Talagang.						
		Salt Range ...	42	...	...	42		
		Chakwal.						
		Salt Range ...	22	...	...	22		
		Pind Dadan Khan						
		Salt Range ...	...	107	...	107	...	Punjab Government Notification No. 349, dated 15th August 1883.
		Total ...	183	125	...	308		
		Carried forward ...	914	170	...	1,084		

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Reserved Forests, 1883-84—concluded.

Division or Range	Civil District or Territory	Name of Forest	Area on 1st April 1883	Added during the year	Excluded or transferred to other heads	Area on 31st March 1884	No. and date of Notification of addition or transfer	Remarks
			Equivalent in square miles	Square miles	Square miles	Equivalent in square miles		
		Brought forward ...	914	170	...	1,084		
		Gujrat.						
Gujranwala	Gujrat ...	Dhul ...	2	...	...	2		
		Mari ...						
		Islands on Chenab	2	...	...	2		
		Pabbi Forest ...	39	...	...	39		
		Phalian ...	32	...	...	32		
	Gujránwála ...	Gujránwála Plantation ...	2	...	...	2		
		Total ...	77	...	...	77		
Lahore	Lahore ...	Chánga Mánga ...	28	...	...	28		
		Shahdara ...	2	...	...	2	...	12 acres added by river action.
		Jhok ...	4	...	...	4		
		Sadhánwáli and Muzang ...	1	...	...	1		
	Amritsar ...	Amritsar Plantation	3	...	...	3		
		Total ...	38	...	...	38		
Mooltan	Mooltan ...	Sarai Sidhu ...	53	...	...	53		
		Lodhrán ...	12	...	...	12		
		Mailsi ...	45	...	...	45		
	Montgomery ...	Montgomery ...	87	...	...	87		
		Total ...	197	...	...	197		
Phillour	Ludhiána ...	Jullundur Plantation	1	...	...	1		
		Ludhiána and Umballa ...	1	...	...	1		
		Total ...	2	...	...	2		
		Grand Total ...	1,228	170	...	1,398		
		Total for 1882-83	1,160	96	28	1,228		

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Protected Forests, 1883-84.

Division or Range	Civil District or Territory	Name of Forest	Area on 1st April 1883	Added during the year	Excluded or transferred to other heads	Area on 31st March 1884	No. and date of Notification of addition or transfer	Remarks
			Equivalent in square miles	Acres	Acres	Equivalent in square miles		
Rawalpindi	Rawalpindi ...	Kála Chitta ...	171	...	...	171		
		Total ...	171	...	...	171		
Gujránwála	Gujránwála ...	Gujránwála ...	140	...	...	140		
		Total ...	140	...	...	140		
		Grand Total ...	311	...	...	311		
		Total for 1882-83	311	...	...	311		

Annual Form No. 49.—[*Prescribed.*]

Forest Department, Punjab.

Area of Unreserved Forests, 1883-84.

Division or Range	Civil District or Territory	Name of Forest	Area on 1st April 1883 — Equivalent in square miles	Added during the year — Square miles	Excluded or transferred to other heads — Square miles	Area on 31st March 1884 — Equivalent in square miles	No. and date of Notification of addition or transfer	Remarks
Rawal-pindi	Rawalpindi ...	Various ..	374	...	...	374		
	Peshawar ...	" ...	1	...	...	1		
		Total ...	375	...	...	375		
Chamba	Gurdáspur ...	Shahpur Kandi ...	21	...	...	21		
		Forest area in Chamba Territory	16	...	16	...		
		Total ...	37	...	16	21		
Beas	Hoshiárpur ...	Various ...	66	...	...	66		
	Kángra ...	" ...	460	...	...	460		
		Total ...	526	...	...	526		
Bashahr	Bashahr ...	Various ...	34	...	...	34		
		Total ...	34	...	...	34		
Jhelum	Jhelum and Gujrat	Belás on Jhelum river ...	1	...	...	1		
	Jhelum ...	Salt range rakhs...	195	...	195	...		
	Shahpur (Khushób)	" " ...	211	...	...	211		
		Total ...	407	...	195	212		
Gujranwala	Jhang ...	Various ...	129	...	...	129		
	Gujránwála ...	" ...	91	*5	...	96	...	* Transferred from Belás to Rakhs. 1 acre added by river action.
	Chenab river range	Belás in plains ...	12	1	*5	8		
	Shahpur (Bhera)...	Rakhs ..	223	...	...	223		
		Total ...	455	6	5	456		
Lahore	Lahore ...	Rakhs in Lahore Tahsil ...	33	...	...	33	...	100 acres granted to Sardár Bahádur Singh, from rakh Bengali, by Government of India No. 602 R, dated 3rd October 1882, to Secretary to Government, Punjab, Military Department.
		Rakhs in Chunián Tahsil ...	174	...	...	174		
		Rakhs in Sharakpur	115	...	...	115		
		Total ...	322	...	...	322		
Mooltan	Montgomery ...	Various rakhs ...	771	...	...	771	...	1,723 acres granted to Resaldár Moujudin. 100 acres leased out by Deputy Commissioner for term of settlement.
	Mooltan ...	" " ...	60	...	3	57		
	Muzaffargarh ...	" " ...	89	...	...	89		
	Dera Ghází Khan	" " ...	29	...	...	29		
		Total ...	949	...	3	946		
Philour	Umballa ...	Kalesar ...	50	...	32	18	...	Deputy Commissioner, Umballa, gives the area of this forest as 11,829 acres.
	Jullundur ...	Sarangwál ...	...	...	...	...		
		Total ...	50	...	32	18		
		Grand total ...	3,155	6	251	2,910		
		Total for 1882-83...	3,323	...	168	3,155		

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1883-84.

Division	Name of Plantation	On 1st April 1883		Added during 1883-84		On 31st March 1884		Remarks
		Area	Cost	Area	Cost	Total Area	Total Cost	
	Regular Plantations	Acres	Rs.	Acres	Rs.	Acres	Rs.	
Beas ...	Manáli Forest Garden	2	708	...	19	2	727	
...	Lee Garden ...	4	1,027	...	13	4	1,040	
Bashahr ...	Sholtu ...	6	586	...	...	6	586	
Jhelum ...	Pira Ghaib ...	125	2,365	...	...	125	2,365	No addition made in consequence of a proposal to set apart the bela for a horse run.
Gujranwala	Bela Pindi Tatár & Nath	173	3,363	...	58	173	3,421	Cultural operations on 30 acres of old plantation.
	Sadhoke ..	1	312	...	...	1	312	
	Thatta Fakirulla ...	393	3,671	...	...	393	3,671	
	Mohla ...	...	...	23	43	23	43	
Lahore ...	Chánga Mánga ...	11,409	4,54,025	...	19,944	11,409	4,73,969	
	Shahdara (Jugian, &c.)	711	25,787	...	156	711	25,943	
	Jhok and Sadhánwáli	1,290	23,294	...	22	1,290	23,316	
	Nag ...	412	29,352	...	316	412	29,668	
	Mozang (Carob) ...	23	5,002	...	391	23	5,393	
Phillour ...	Jullundur ...	51	3,740	...	...	51	3,740	
	Phillour ...	220	13,892	...	* 1,206	220	15,098	* 125 acres trenched and sown with kíkar and shísham root slips.
	Ludhiána ...	197	6,941	...	39	197	6,980	
	Subáthu ...	123	9,009	20	1,610	143	10,619	
	Jagádhri ...	184	9,547	...	...	184	9,547	
	Total Regular Plantations.	15,324	5,92,621	43	23,817	15,367	6,16,438	
	For 1882-83 ...	15,448	5,70,723	95	21,898	15,324	5,92,621	
	Cultural Operations							
Hazara ...	Chánglagali ...	44	3,522	...	...	44	3,520	Rs. 8 deducted by Divisional Officer.
	Kajagali ...	16				16		
	Kutli ...	10				10		
	Chhumbi ...	...	...	1½	4	1½		
	Mari ...	5	...	...	...	5		
	Sunderinar in Bakotkas	6	2	...	...	6		
	Malkandi ...	8	7	...	...	8	7	
	Kharraka ...	3	91	...	...	3	108	Rs. 8 added by Divisional Officer.
	Makhunyal ...	2	3	...	...	2		
	Garamthoon ...	...	...	½	6	½		
Rawalpindi...	Pesháwar Jhil ...	...	15,370	...	472	...	...	Removed from Plantation to Forests.
	Barakao ...	...	181	...	107	...	276	
	Ghoragali ...						12	
	Khairi Murat ...	...	1,003	...	54	...	1,057	
	Patriata ...	...	...	...	40	...	40	
	Athial (Baingala Reserve).	...	...	...	132	...	132	
	Kherimar Reserve ...	...	...	...	33	...	33	
	Sang Imni ...	...	...	...	6	...	6	
Chamba ...	Pangi (various) ...	...	3,699	...	21	...	3,720	
	Bassu ...	149	3,319	...	17	149	† 3,329	† Error in Divisional figures in previous return.
	Dhauri ...	25	165	...	...	25	† 105	
	Bakloh ...	...	158	...	58	...	216	
	Khirkigali ...	...	90	...	...	...	90	
	Kálatop ...	...	1,252	...	794	‡113	2,046	‡Area shown by Divisional Officer.
	Kainthli ...	...	44	...	54	...	98	
	Chad Bert & Khunni	...	15	...	56	...	71	Nurseries.
	Majaur ...	...	17	...	...	...	17	
	Cherri ...	2	46	...	...	2	46	
	Padri and Bohar ...	...	...	2	276	2	276	Nurseries.
	Chatri ...	...	...	...	16	...	16	
	Carried forward ...	270	28,984	4	2,146	387	15,222	

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1883-84—concluded.

Division	Name of Plantation	On 1st April 1883		Added during 1883-84		On 31st March 1884		Remarks
		Area	Cost	Area	Cost	Total Area	Total Cost	
		Acres	Rs.	Acres	Rs.	Acres	Rs.	
	Brought forward ...	270	28,984	4	2,146	387	15,222	
	Cultural operations —concluded.							
Beas ...	Kulu Range ...	168	18,303	747	2,304	1,238	20,607	Changes in area made by Divisional Officer.
	Nurpur ...	16		...		27		
	Dera ...	23		32		137		
	River ...	1		...		655		
Bashahr ...	East Nachar ...	10	709	2	81	*72	790	
	Sapni ..	180	212	...	214	*120	426	* Mistake in Divisional figures in previous return.
	Punang ...	24	484	...	27	24	511	
	Kunhi ...	1	56	1	8	2	64	
	Kilba ...	2	434	2	137	4	571	
	Derkali Kashapat ...	...	...	1	23	1	23	Nursery.
	Tranda ...	...	...	3	75	3	75	
	Guthrang ...	...	...	12	65	12	65	
	Nachar, West ...	...	...	1	46	1	46	
	Tangling ...	...	...	8	42	8	42	
Jhelum ...	Gandhala ...	1	212	2	† 119	3	331	† Includes Rs. 26 on account watering.
	Fakirulla ...	...	62	1	146	1	208	Includes Rs. 69 on account watering.
Gujranwala	Pabbi reboisement area	235	7,972	123	2,266	358	10,238	
	Chichra ...	...	12	3	94	3	106	
	Kikranwáli ...	1	110	1	240	2	350	
	Chak Ghází ...	5	7	...	...	5	7	
	Bhera Rakhs ...	...	6	...	2	...	8	
	Phálián Rakhs ...	...	...	...	17	...	17	
	Do. (Tibbi Tarar) ...	...	...	2	16	2	16	
	Gujránwála Nursery ...	...	...	1	95	1	95	
Lahore ...	Kot Lakhpat ...	...	13,955	...	1,206	...	15,161	
	Experiments ...	...	882	...	...	...	882	
	Rakh Chandra ...	...	567	...	...	...	567	
Mooltan ...	Rakh Haji Majid ...	11	337	...	93	11	430	
	Okara Reserve ...	22	251	...	404	22	655	
	Montgomery Range ...	59	20	...	...	59	20	
	Mooltan ...	36	96	...	...	36	‡ 46	‡ Error of Rs. 50 in previous Divisional return.
Phillour ..	Kalesar ...	...	...	...	32	...	32	
	Total cultural operations	1,065	73,671	946	9,898	3,196	67,611	
	For 1882-83 ...	753	75,968	307	5,910	1,065	73,671	
	Failures.							
Gujranwala	Chichra ...	...	5,304	...	...	...	5,304	
	Kikranwáli ...	...	4,401	...	...	...	4,401	
	Phálián ...	...	17	...	...	...	17	
Lahore ...	Baoli Lehna Singh ...	...	30,485	...	6	...	30,491	
	Total ...	...	40,207	...	6	...	40,213	
	For 1882-83 ...	...	30,485	...	9,722	...	40,207	
	Abstract							
	Regular Plantations ...	15,324	5,92,621	43	23,817	15,367	6,16,438	
	Cultural operations ...	1,065	73,671	946	9,898	3,196	67,611	
	Failures ...	...	40,207	...	6	...	40,213	
	Total ...	16,389	7,06,499	989	33,721	18,563	7,24,262	
	For 1882-83 ...	16,201	6,77,178	402	37,530	16,389	7,06,499	

Form No. 51.

Forest Department, Punjab.

Area of Forest Tracts protected from fire during the dry season of 1883.

Division	Forest Tracts	Up to end of 1882-83: Area actually protected	Up to end of 1882-83: Total cost	During dry season of 1883-84: Area attempted to be protected	Failures	Actually protected	Amount expended	Total cost up to 15th June 1883	Year in which protection commenced	Remarks
		Acres	Rs.	Acres	Acres	Acres	Rs.	Rs.		
Chamba...	Bakloh ...	1,280	54	...	..	1,280	36	90	1872	
	Bannikhet ...	537		...	...	537			1874	
	Kálatop ...	...	...	2,870	...	2,870			1871	
	Kainthli ...	...	...	644	...	644			1882	
	Shahpur Kandi ...	...	...	8,822	2,500	6,382			1882	
Beas ...	Parts of Lohara, Panjal and Darni	2,000	272	2,000	...	2,000	36	319		
	Dhamtal ...	600	14	600	...	600	8	40		
	Talora and Kalob ...	1,000	2	1,000	...	1,000	8	16		
	Tatal and Mehdar ..	1,600	8	1,600	...	...	...	15		
	Chitral and Jakar ...	1,700	5	1,700	...	1,700	8	20		
	Bindraban ..	600	7	600	...	600	8	15		
	Chabootra, Humal, Babral and part of Dhar Jabb ...	..	...	1,470	...	1,470	100	100		
Mooltan	Bibipur ...	864	45	864	...	864	24	69	1882-83	
	Bhagiana ...	1,470	94	1,470	...	1,470	24	118		
	Okara ...	4,097	95	4,097	...	4,097	93	188		
	Gaskori ...	..	...	4,024	...	4,024	20	20	1883-84	
	Aliwál ...	...	...	1,228	...	1,228	16	16		
	Mahomedpur ...	...	...	1,748	...	1,748	16	16		
	Kalera ...	...	...	4,561	...	4,561	18	18		
	Hurruppa ...	...	...	1,945	...	1,945	12	12		
	Dad Fatiana ...	...	...	1,072	...	1,072	12	12		
	Darsana ...	...	...	1,663	...	1,663	11	11		
Phillour	Kalesar ...	3,000	699	3,000	...	3,000	102	801	1881-82	
	Subáthu ...	...	...	225	...	225	34	34	1883-84	
	Total ...	...	*1,295	...	...	...	586	1,930	...	*Error of Rs. 20 in closing balance.
	For 1882-83 ...	...	792	...	...	...	523	1,315	...	

Charged in previous years ...	1,344	Rs. 49 added by Beas Division.
Do. in 1883-84 ...	586	
Total ...	1,930	
For 1882-83 ...	1,315	

Annual Form No. 52.—[*Prescribed.*]

Forest Department, Punjab.

Prosecutions for breaches of Forest Rules during 1883-84.

Forest Division and Civil District.	Cases pending from 1882-83	New cases of the year: Injury to forest by fire	Unauthorized felling or appropriation of wood and minor forest produce	Grazing without permission or in tracts in which grazing is prohibited	Other offences	Total new cases of the year	Total cases	Disposed of during the year: Convictions: Cases	Convictions: Persons	Acquittals: Cases	Acquittals: Persons	Total: Cases	Total: Persons	Cases pending at close of year
Hazara Division														
Hazára District ...	7	13	61	23	2	99	106	60	60 & 40 villages	24	67 & 9 villages	84	127 & 49 villages	22
Rawalpindi Division														
Rawalpindi District ...	21	5	95	57	30	187	208	132	396	42	123	174	519	34
Chamba Division														
Chamba State ...	1	3	18	...	...	21	22	14	28	4	17	18	45	4
Beas Division														
Kángra District ...	9	66	80	2	26	174	183	165	1,652	11	156	176	1,808	7
Hoshiárpur " ...	1	5	30	...	.	35	36	33	64	3	9	36	73	...
Amritsar " ...	...	...	1	...	..	1	1	...	...	1	1	1	1	...
Gurdáspur " ...	...	...	3	...	...	3	3	3	3	...	...	3	3	...
Bashahr Division														
Bashahr State ...	19	15	14	...	36	65	84	19	57	11	14	30	71	54
Jhelum Division														
Jhelum District ...	2	...	29	12	36	77	79	60	112	18	38	78	150	1
Shahpur " ...	...	...	4	...	8	12	12	10	15	2	6	12	21	...
Gujrat " ..	...	..	...	...	11	11	11	8	40	3	21	11	61	...
Jhang " ...	..	...	...	...	2	2	2	2	2	...	...	2	2	...
Rawalpindi " ...	...	...	...	...	1	1	1	1	5	...	...	1	5	...
Gujranwala Division														
Gujrat District ...	4	2	22	16	3	43	47	38	84	6	65	44	149	3
Gujránwála " ...	1	..	5	2	1	8	9	8	8	...	...	8	8	1
Shahpur " ...	...	...	...	...	2	2	2	2	10	...	...	2	10	...
Jhang " ..	..	...	4	...	1	5	5	5	5	...	...	5	5	...
Siálkot " ...	1	...	2	...	1	3	4	...	...	2	2	2	2	2
Mooltan " ...	...	...	...	...	1	1	7	1	1	...	...	1	1	...
Lahore Division														
Lahore District ...	1	1	12	5	...	18	19	16	30	3	11	19	41	...
Amritsar " ...	...	1	1	...	1	3	3	...	...	3	6	3	6	...
Mooltan Division														
Montgomery District ...	23	2	28	21	26	77	100	62	128	32	32	94	160	6
Mooltan " ...	6	1	9	51	12	73	79	63	84	14	16	77	100	2
Muzaffargarh " ...	8	6	3	...	6	15	23	...	...	22	31	22	31	1
D. G. Khan " ...	...	4	2	...	2	8	8	6	38	...	...	6	28	2
Phillour Division														
Jullundur District ...	1	...	2	1	1	4	5	4	5	1	2	5	7	...
Hoshiárpur " ...	...	..	2	...	...	2	2	1	1	1	6	2	7	...
Umballa " ...	...	...	2	...	1	3	3	3	8	...	...	3	8	...
Simla " ...	1	1	8	2	2	13	14	6	8	8	10	14	18	...
Ludhiána " ...	...	1	...	1	...	2	2	...	...	2	15	2	15	...
Total ...	106	126	437	193	212	968	1,074	722	2,844	213	648	935	3,492	139
For 1882-83 ...	130	119	431	169	184	903	1,033	698	1,858	229	636	927	2,494	106

Annual Form No. 53.—*(Prescribed).*

Forest Department, Punjab.

Summary of Revenue of the different Divisions, 1883-84.

Budget Heads Receipts	Direction			Hazára Division			Rawalpindi Division			Chamba Division			Beas Division			Bashahr Division			Jhelum Division			Gujránwalá Division			Lahore Division			Mooltan Division			Phillour Division			Total		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs	A.	P.
I.—Timber and other produce removed from the forests by Government agency :—																																				
a. Timber	...	...	...	14,135	1	9	308	9	6	70,849	8	1	44,959	13	5	808	7	2	58,930	5	5	44.891	15	9	811	6	0	...	...	...	97,036	13	5	3,32,732	0	6
b. Firewood and Charcoal	...	...	...	...	...	...	16,997	10	10	3,494	5	4	61	12	0	80	2	5	14	10	6	386	10	9	68,106	4	7	...	...	...	95	4	3	89,236	12	8
c. Bamboos	...	...	...	...	...	...	1,269	6	2	...	...	...	12,023	12	4	...	...	...	...	...	...	20	8	0	...	...	...	...	...	...	387	13	6	13,701	8	0
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other Minor Produce. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
II.—Timber and other produce removed from the forests by consumers or purchasers :—																																				
a. Timber	...	...	...	1,458	4	0	4,970	4	5	271	2	0	13,437	15	3	...	...	...	9	6	0	...	...	...	2,134	12	0	650	11	0	17	7	0	22,949	13	8
b. Firewood and Charcoal	...	...	...	5,063	7	0	17,260	9	7	40	0	0	2	9	9	...	...	...	338	9	7	4,653	1	5	41.258	14	0	79.373	9	4	9,663	14	9	1,57.654	11	5
c. Bamboos	...	...	...	...	...	...	50	14	0	...	...	...	119	8	8	...	...	...	4	12	0	...	...	...	...	...	...	...	...	...	198	7	0	373	9	8
d. Grazing and Fodder Grass	...	...	...	5,968	4	7	6,449	12	11	12	10	0	5,304	7	5	...	...	...	12,371	11	5	85 944	8	3	36,342	11	6	39,586	5	5	3,729	3	0	1,95,709	10	6
e. Other Minor Produce	...	...	...	413	0	5	111	5	0	2	14	0	24	3	3	...	...	...	298	13	9	542	6	0	1,568	5	0	1,111	12	0	...	...	...	4,072	11	5
III.—Confiscated drift and waif wood ...	...	...	...	...	...	...	694	8	0	31	10	6	757	10	7	...	...	...	51,644	1	3	2,539	0	3	...	...	...	34	0	0	32	5	0	55,733	3	7
IV.—Revenue from forests not managed by Government :—																																				
a. Duty on Foreign Timber and other Forest Produce	...	...	...	...	...	...	...	...	...	2,297	13	4	2.882	15	6	...	...	...	9.501	6	2	2,796	5	2	...	...	...	...	...	...	1,709	10	3	19.188	2	5
b. Revenue from Shared and Private Forests ...	...	...	...	1,910	8	0	...	...	...	...	...	...	1,356	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,266	9	3
V.—Miscellaneous :—																																				
a. Fines and Forfeitures	...	...	...	938	2	6	...	...	...	5	8	0	1,925	4	1	...	...	...	...	...	...	0	9	0	...	...	...	39	0	0	...	...	...	2,908	7	7
b. Refunds	10	0	0	0	2	0	3	3	7	1,400	0	0	5	15	11	0	2	0	2	13	0	1	10	10	5	15	3	...	...	...	92	14	11	1,522	13	6
c. Other Sources	19	0	0	0	9	0	1,223	14	4	3,166	3	3	292	12	7	...	...	...	878	5	1	452	5	9	469	14	5	3,543	15	3	1,079	13	8	11,126	13	4
Total Receipts ...	29	0	0	29,887	7	3	49,340	2	4	81,571	10	6	83,154	14	0	888	11	7	1,33,994	14	2	1,42,229	1	2	1,50,698	2	9	1,24.339	5	0	1,14,043	10	9	9.10.176	15	6
For 1882-83 ...	57	8	0	44,751	10	4	70,537	1	6	89,630	4	4	58.249	12	3	...	...	...	87,301	8	8	1,03,973	0	8	1,14,758	8	9	76,105	3	10	1,21,344	11	6	7,66,709	5	10

Calcutta,
The 27th May 1884.

G. J. van SOMEREN, Major,
Assistant Comptroller General (Forests).

Annual Form No. 53.—[*Prescribed*]

Forest Department, Punjab.

Summary of Expenditure of the different Divisions, 1883-84.

Budget heads	Direction			Hazára Division			Rawalpindi Division			Chamba Division			Beas Division			Bashahr Division			Jhelum Division			Gujránwála Division			Lahore Division			Mooltan Division			Phillour Division			Total		
A.—Conservancy and Works.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
I.—Timber and other produce removed from the forests by Government agency:—																																				
a. Timber	...	...	...	11,954	15	10	72	15	0	20,680	11	1	12,752	5	3	15,285	5	10	20,385	15	4	12,439	6	0	...	...	...	...	...	...	13,360	2	4	1,06,931	12	8
b. Firewood and Charcoal ...	...	...	...	...	...	...	4,684	5	0	126	14	5	...	...	...	...	...	...	3	12	3	10	12	10	12,819	8	7	...	...	...	34	4	4	17,679	9	5
c. Bamboos	...	...	...	...	...	...	243	12	3	...	...	...	2,548	15	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	4	7	2,799	0	5
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37	3	3	...	...	...	...	...	...	...	...	...	37	3	3
II.—Timber and other produce removed from the forests by consumers or purchasers ...	...	...	...	149	15	6	105	4	8	368	10	8	0	4	0	...	...	...	21	14	0	317	5	0	100	8	9	1,102	2	5	5	6	0	2,171	7	0
III.—Confiscated drift and waif wood	...	...	...	...	...	...	520	9	0	...	...	...	224	2	8	...	...	...	77,970	4	1	368	15	3	...	...	...	1	11	0	...	...	...	79,085	10	0
IV.—Revenue from forests not managed by Government—																																				
a. Duty on foreign timber and other forest produce ...	...	...	...	...	...	...	...	...	...	62	5	4	72	0	0	...	...	...	9,270	11	11	873	3	6	...	...	...	...	...	...	910	2	8	11,188	7	5
b. Revenue from shared and private forests ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government	...	...	...	1,500	0	6	...	...	...	21,000	0	0	4,515	14	5	10,975	0	0	...	...	...	52	1	0	...	...	...	...	...	...	...	...	...	38,042	15	5
VI.—Live Stock, Stores, Tools and Plant—																																				
a. Purchase of Cattle ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
b. Feed and keep of Cattle ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	92	8	5	107	12	0	156	6	7	112	4	5	87	8	9	556	8	2
c. Stores, Tools and Plant ...	426	14	6	231	13	0	102	10	3	84	15	6	363	7	6	587	1	6	439	0	0	326	0	0	272	13	4	39	0	7	143	6	1	3,017	2	3
VII.—Communications and Buildings—																																				
a. Roads and Bridges ...	...	...	...	449	15	9	1,207	14	8	994	6	7	253	8	6	3,263	9	3	...	...	...	24	4	0	...	...	...	30	30	0	61	5	6	6,285	4	3
b. Buildings ...	264	10	0	99	15	9	1,099	4	6	1,274	1	3	1,018	5	4	2,373	3	1	865	14	11	128	15	11	372	15	0	201	7	8	705	0	11	8,403	14	4
c. Other Works ...	...	...	...	...	...	...	9	13	0	...	...	...	16	3	6	...	...	...	...	...	...	...	...	...	...	...	...	9	0	6	...	...	...	35	1	0

| | | |

Annual Form No. 54.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Account Current for the year 1883-84.

Dr.

	Rs.	A.	P.	Rs.	A.	P.
To Cash Balance on 1st April 1883 ...	...	...	...	7,911	3	9
„ *Revenue as per Annual Summary (Form* 53) ...	...	...	..	9,10,176	15	6
„ *Service Funds*—						
Civil Fund, Ordinary (Bengal)	296	7	10			
„ „ Additional „	296	7	10			
Military Fund, Bengal	243	0	0			
„ „ Madras	1,041	3	3			
Military Orphan Fund (Bengal)	210	0	0			
U. S. F. Pension Fund „	2,821	13	0			
				4,908	15	11
„ *Deposits*	...	...	...	3,344	8	8
Forest Cash Remittances (Local)—						
Forest Cheques drawn	6,52,512	7	5			
Inter-Divisional Transfers	7,614	3	8			
				6,60.126	11	1
„ *Advances recoverable*	...	...	.	3,44,958	15	4
„ *Suspense*	...	...	..	764	5	11
„ *Account Current (other Governments)*—						
Government of India	798	14	5			
„ Berar	450	0	0			
„ North-Western Provinces & Oudh ...	17,345	12	6			
„ Bengal	530	0	0			
				19,124	10	11
„ *Inter-Departmental Transfers*—						
Public Works Department Military Works	16	4	6			
„ „ (Other Branches)	216	10	0			
				232	14	6
„ *Civil Department*—						
Jails	1,032	8	0			
Mathematical Instrument Department	190	3	0			
				1,222	11	0
TOTAL ...	...	...	...	19,52.772	0	7
FOR 1882-83 ...	...	...	...	16,50,595	14	8

Cr.

	Rs	A.	P.	Rs.	A.	P.
By Expenditure as per Annual Summary (Form No. 53) ...	...	...	.	6,53,146	1	2
„ *Deposits*	...	...	...	2,720	12	0
„ *Forest Cash Remittances (Local)*—						
Remittances to Treasuries	7,85,620	3	9			
Inter-Divisional Transfers	7,604	3	8			
				7,93.224	7	5
„ *Advances Recoverable*	...	...	...	3.55,737	3	3
„ *Suspense*	...	...	...	771	13	11
„ *Account current (other Governments)*—						
Government of India	24	12	0			
„ Berar	188	11	4			
„ North-Western Provinces and Oudh ...	95	2	6			
„ Bengal	152	9	0			
				461	2	10
„ *Inter-Departmental Transfers*—						
Public Works Department, Punjab Northern (State) Railway	70	10	8			
„ „ „ Rewári and Firozpur Railway ...	1,13,616	3	0			
„ „ „ Military Works	11,107	3	5			
„ „ „ Other branches	14 872	2	3			
Military Department, Bengal	1,173	3	0			
Rs. A. P.						
Rewards for passing examination ... 720 0 0						
Miscellaneous 1,414 4 1						
	2,134	4	1			
Telegraph Department	769	12	0			
				1,43.743	6	5
„ *Cash Balance on 31st March* 1884	...	..	..	2,967	1	7
TOTAL ..	.	.	..	19.52.772	0	7
FOR 1882-83 ...	...	...	...	16,50,595	14	8

CALCUTTA,
The 27th May 1884.

G. J. VAN SOMEREN, MAJOR,
Assistant Comptroller General (Forests).

Annual Form No. 55.—[*Prescribed*]

FOREST DEPARTMENT, PUNJAB.

Outstandings and Liabilities on account of Contractors and Disbursers for 1883-84.

Division	Department Debtor									Department Creditor									Balance due					
	At commencement of year			Recoveries in cash and value of supplies and work done during the year			At close of year			At commencement of year			Payments made during year			At close of year			To Department (outstandings)			By Department (liabilities)		
				Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.			
Direction ...				14,788	13	2	14,788	13	2	1,215	15	11	14,493	10	6	15,709	10	5	920	13	3			
Hazára ...				10,332	15	10	10,332	15	10	..	.	...	10,333	3	10	10,333	3	10	0	4	0			
Rawalpindi ...				27,119	2	1	27,119	2	1	5,967	9	5	22,521	13	7	28,489	7	0	1,370	4	11			
Chamba ...				44,953	14	5	44,953	14	5	4,231	3	8	60,931	11	5	65,162	15	1	20,209	0	8			
Beas ...				74,339	5	8	74,339	5	8	3,282	8	5	73,795	6	1	77,077	14	6	2,738	8	10			
Bashahr ...				12,273	11	10	12,273	11	10	3,049	14	11	13,368	8	1	16,418	7	0	4,139	11	2			
Jhelum ..				67,621	8	7	67,621	8	7	1	9	0	68,361	1	8	68,362	10	8	741	2	1			
Gujránwála ...				18,844	15	10	18,844	15	10	2,153	8	4	17,121	13	2	19,275	5	6	430	5	8			
Lahore ...				39,773	6	7	39,773	6	7	304	11	2	39,931	3	1	40,235	14	3	462	7	8			
Mooltan ...				12,881	12	5	12,881	12	5	71	14	10	13,021	0	2	13,092	15	0	211	2	7			
Phillour ...				22,029	4	11	22,029	4	11	535	13	2	21,862	11	8	22,398	8	10	369	3	11			
Total ...				3,41,958	15	4	3,44,958	15	4	20,814	12	10	3,55,737	3	3	3,76,552	0	1	31,593	0	9			
FOR 1882-83 ...				3,04,821	1	8	3,04,821	1	8	21,388	10	4	3,04,247	4	2	3,25,635	14	6	20,814	12	10			

CALCUTTA,
The 27th May 1884.

G. J. VAN SOMEREN, MAJOR,
Assistant Comptroller General (Forests).

Annual Form No. 56.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Revenue received and Outstandings on account of Revenue during 1883-84.

Division	Particulars	Outstandings at commencement of year			Value of sales and other revenue during year			Total			Amount realized during year			Balance due to the Department at end of year			Remarks
		Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	
Direction ..	...	...	.		29	0	0	29	0	0	29	0	0	...	...	...	
Hazára ..	..	...	.	...	30,028	6	9	30,028	6	9	29,887	7	3	140	15	6	
Rawalpindi	...	72	1	2	49,268	1	2	49,340	2	4	49,340	2	4	0	2	4	
Chamba ...	...	3,513	0	1	81,934	10	5	85,447	10	6	81,571	10	6	3,876	0	0	(*a*) Rs. 798-0-8 written off under sanction of the Commissioner of Rawalpindi division.
Beas ...	...	...	...	...	83,164	14	0	83,164	14	0	83,151	14	0	10	0	0	
Bashahr ...	..	...	...	...	1,036	8	9	1,036	8	9	888	11	7	147	13	2	
Jhelum ...	...	2,861	2	2	1,34,347	11	4	1,37,208	13	6	(*a*) 1,35,125	7	2	2,083	6	4	" 287-9-7 written off under Punjab Government sanction. " 44-14-9 remitted by Conservator.
Gujránwála	...	7,811	8	11	1,40,466	4	8	1,48,277	13	7	(*b*) 1,44,144	3	5	4,133	10	2	(*b*) " 1,915-2-3 written off under sanction of the Commissioner of Rawalpindi division.
Lahore ...	...	3,196	2	0	1,49,835	14	0	1,53,032	0	0	1,50,698	2	9	2,333	13	3	
Mooltan ...	...	1,837	0	6	1,24,069	13	0	1,25,906	13	6	(*c*) 1,24,570	6	0	1,336	7	6	(*c*) " 231-1-0 written off under sanction of the Commissioner of Mooltan division.
																	Rs. 3,276-12-3
Phillour ...	...	1	4	8	1,14,042	14	8	1,14,044	3	4	1,14,043	10	9	0	8	7	
Total ...	.	19,292	3	6	9,08,224	2	9	9,27,516	6	3	(*d*) 9,13,453	11	9	14,062	10	6	
FOR 1882-83	...	20,556	1	4	7,65,542	10	6	7,86,098	11	10	7,66,806	8	4	19,292	3	6	

	Rs.
(*d*) Revenue as per Form 53	9,10,176-15-6
Amount written off under proper sanction	3,276-12-3
Total ...	9,13,453-11-9
(*e*) From Public Department	Rs. 8,465-2-11
From private purchasers	" 5,597-7-7

CALCUTTA,
The 27th May 1884.

G. J. VAN SOMEREN, MAJOR,
Assistant Comptroller General (Forests).

Annual Form No 57.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Fiancial results of the year 1883-84.

DIVISION	*Timber and other produce removed from the forests by Government Agency*		*Other revenue*		*Formation, protection and improvement of forests*	*Total*		REMARKS
	Receipts	Charges	Receipts	Charges	Charges	Receipts	Charges	
	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	
Hazára ...	14 135	23,402	15,752	10,128	14.588	29,887	48,118	
Rawalpindi ...	19,271	12,623	30,069	7,280	19 576	49,340	39,479	
Chamba ...	74,375	51 861	7,197	10,956	13,952	81.572	76,771	
Beas ..	57,803	34,409	25,352	14,389	32,266	83,155	81,064	
Bashahr ...	889	33,149	...	7,599	15,930	889	56,678	
Jhelum ...	1,10,589	1,07,825	23.405	18,686	11,015	1,33,994	1,37,526	
Gujránwála ...	47,838	23,944	94.391	12.216	15.798	1,42,229	51,958	
Lahore ...	68,918	22,845	81.781	9,654	32,327	1.50,699	64.326	
Mooltan ...	34	5,938	1,24,305	7.095	9.349	1,24,339	22,382	
Phillour ...	97,552	18,376	16 492	5 834	9,040	1,14,044	33,250	
Total ...	4,91,404	3,33,872	4,18,744	1,03,839	1,73,841	9,10,148	6,11,552	
Direction ..	...	12,969	29	15,498	13,127	29	41.594	
GRAND TOTAL ..	4 91,404	3,46.841	4,18,773	1,19,337	1 86,968	9,10,177	6,53,146	
FOR 1882-83 ...	3,92 530	2,85,123	3,74,179	1,14,039	1,61.588	7,66,709	5,60,750	

Annual Form No. 58.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Trees felled by Government Agency during the year 1883-84.

DIVISION	*Trees felled*		REMARKS
	Description	Number	
HAZARA ...	Bér and other hardwood trees	259	
	Paluddar	64	
	Total ...	323	
CHAMBA ...	Deodár	2 499	
	Tos	192	
	Rai	21	
	Chíl	10	
	Total ...	2,722	
BEAS ...	Deodár	549	
	Total ...	549	
BASHAHR ...	Deodár green	1,505	
	Do. dry	445	
	Do. windfall	25	
	Blue Pine	16	
	Total ...	1,991	
	ABSTRACT.		
	Deodár	5,023	
	Bér	259	
	Paluddar	64	
	Tos	192	
	Rai	21	
	Chíl	10	
	Blue Pine	16	
	Total ...	5,585	
	FOR 1882-83 ...	7,204	

Annual Form No. 59.—[*Suggested.*]

Forest Department, Punjab

Out-turn of Timber and other produce cut and collected by Government agency during the year 1883-84.

Division	Produce cut and collected				Remarks
	How obtained	Description	Number or quantity	Cubic feet	
Hazara ...	Selection fellings ..	Deodar logs ...	49	...	
	Windfalls ...	" ...	44	...	
	" ...	Mixed ...	163	...	
	Selection fellings and windfalls ...	Biár and other hardwood scantlings ...	10,942	13,796	
	" ...	Paluddar ...	7,078	7,620	
	"	Biár shingles ...	150,108	...	
	" ...	Paluddar shingles ...	27,000	...	
		Total ..	195,384	21,416	
Rawalpindi ...	Selection fellings ...	Scantlings ...	3	5	From trees cut in 1882-83
	" ...	Planks ..	158	131	
	" ...	Firewood ...	100	...	Maunds
	" ...	Charcoal ...	10,226	...	"
	" ..	Bamboos ...	9,538	...	
	Waif ...	Logs ...	210	...	
		Total ...	20,235	136	
Chamba ...	Selection fellings ...	Deodár logs ...	7,485	...	
	" ...	" sleepers ...	7,518	...	
	" ...	" scantlings ..	5,406	6,176	
	" ...	Tos " ...	4,338	5,897	
	" ...	Rai " ...	1,202	1,047	
	" ...	Chil " ...	738	450	
	" ..	Tos sleepers ...	4	17	
		Total ...	26,691	13,587	
Beas ...	Selection fellings ...	Deodar logs ...	1,772	35,440	
	" ...	" sleepers ...	5,543	10,362	6′ × 9″ × 5′
	Clearances ...	" logs ...	3	60	
	" ...	" scantlings ...	33	99	
	" ...	Scraps and pieces ...	4	20	
	Waif ...	" ...	136	136	
		Total ...	7,491	46,117	
	Selection fellings ...	Bamboos ...	668,825	...	

Annual Form No. 59—[*Suggested*].—*concluded.*

Division	Produce cut and collected				Remarks
	How obtained	Description	Number or quantity	Cubic feet	
Bashahr ...	Selection fellings ...	Deodár logs ...	7,358	...	
	" ...	Blue pine logs ...	83	...	
	" ...	Deodár logs ...	2,110	...	
	Windfall ...	" ...	122	...	
		Total ...	9,673	...	
Lahore ...	Clear cutting ...	Sissu poles ...	493	...	
	" ...	Firewood ...	...	338,275	
	Thinnings ...	Sissu poles ...	307	...	
	" ...	Firewood ...	...	1,765,443	
		Total ...	800	2,103,718	
Phillour ...	Waif ...	Log ...	1	...	
	" ...	Scraps ...	2	...	
	Clearance ...	Ballas ...	2	...	
	Conversion ...	Sál Tors ...	1,000	...	
		Total ...	1,005	...	
	ABSTRACT				
		Deodár logs ...	19,106	35,300	
		Pine " ...	83	...	
		Other " ...	211	...	
		Deodár scantlings ...	5,439	6,275	
		Paluddar " ...	7,078	7,620	
		Biár " ...	10,942	13,796	
		Tos " ...	4,338	5,897	
		Rai " ...	1,202	1,047	
		Chíl " ...	738	450	
		Other " ...	161	136	
		B. G. sleepers ...	7,518	...	
		N. G. " ...	5,543	10,362	
		Tos " ...	4	17	
		Sissu poles ...	800	...	
		Sál " ...	1,000	...	
		Scraps and pieces ...	144	156	
		Total timber ...	64,307	81,256	
		For 1882-83 ...	110,664	164,226	
		Firewood ...	100	...	Mds.
		" ...	...	2,103,718	
		Charcoal ...	10,226	...	Mds.
		Shingles ...	177,108	...	Pieces.
		Bamboos ...	678,363	...	"
	For 1882-83 ...	Firewood ...	...	948,426	
		Charcoal ...	14,675	...	Mds.
		Shingles ...	508,890	...	Pieces.
		Bamboos ...	772,463	...	"
		Brushwood ...	2,683	...	Mds.
		Grass ...	44	...	"

Annual Form No. 60.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce received from Forests in Sale Depôts during the year 1883-84.

DIVISION	Depôt	Produce Received: Description	Number or quantity	Cubic feet	REMARKS
RAWALPINDI ...	Rawalpindi Sadr ...	Charcoal ...	38	...	Mds.
	" ...	Bamboos ...	9,538	...	Pieces.
	Murree ...	Charcoal ...	8,906	...	Mds.
		Total charcoal ...	8,944		
		Bamboos ...	9,538		
CHAMBA ...	Shahdara ...	Deodár logs ...	480	14,464	
		Pine " ...	130	3,029	
		Broad-gauge sleepers ...	352	1,106	
		Narrow-gauge " ...	10,985	16,631	
		Sleeper pieces ...	332	332	
		Deodár scantlings ...	376	175	
		" slabs ...	3,356	1,292	
		Sleeper pieces ...	4	545	
		Small sleeper pieces ...	8,225	1,712	
	Shahpur ...	Deodár logs ...	29	881	
		Pine " ...	15	362	
		Broad-gauge sleepers ...	225	781	
		Narrow-gauge " ...	101	151	
		Sleeper pieces ...	7	14	
	Kálatop ...	Deodár scantlings ...	5,406	6,176	
		Tos " ...	4,338	5,897	
		Rái " ...	1,202	1,047	
		Chil " ...	738	450	
		Tos sleepers ...	4	17	
		Total Timber ...	36,305	55,062	
	Shahdara ...	Firewood, stacks ..	80	12,183	
	Shahpur ...	" ...	28	6,600	
		Total Firewood ...	108	18,783	
BEAS ...	Wazir Bholar ...	Deodár logs ...	311	10,024	
		Pine " ...	72	1,820	
		Walnut " ...	1	8	
		Broad-gauge sleepers ...	38	126	
		Deodár scantlings ...	4	16	
		Scraps and pieces ...	512	...	
		Deodár scraps ...	1	...	
		Waste wood ...	277	...	
	Nadaun ...	Deodár logs ...	914	34,827	
		Pine " ...	51	1,182	
		Broad-gauge sleepers ...	285	959	
		Deodár scantlings ...	18	94	
		Drift and waif wood ...	417	274	
		Waste wood ...	150	...	
		Deodár scraps ...	1	1	
	Naushahra ...	Deodár logs ...	12	349	
		Pine " ...	2	28	
		Total Timber ...	3,066	49,708	
	Wazir Bholar ...	Firewood ...	9	...	
	Pandain ...	Bamboos ...	561,835	...	
	Dhamtal ...	" ...	106,990	...	
		Total Bamboos ...	668,825	...	
		" Firewood ...	9	...	

Annual Form No. 60.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce received from Forests in Sale Depôts during the year 1883-84—contd.

Division	Depôt	Produce Received: Description	Number or quantity	Cubic feet	Remarks
Bashahr ...	Suni ...	Deodár logs ...	1,770	38,768	
		Pine " ...	51	962	
		Scraps and pieces ...	1,220	...	
		Total Timber ...	3,041	39,730	
Jhelum ...	Jhelum ...	Deodár logs ...	7,229	241,784	
		Pine " ...	5,411	120,361	
		Narrow-gauge sleepers ...	695	1,874	
		Other scantlings ...	5,557	1,946	
		Scraps and pieces ...	685	11,189	
	Chak Nizám ...	Deodár logs ...	1,186	35,892	
		Pine " ...	4,599	90,330	
		Narrow-gauge sleepers ...	52	180	
		Other scantlings ...	76	79	
		Scraps and pieces ...	471	3,680	
	Khusháb ...	Deodár logs ...	1,027	19,647	
		Pine " ...	3,106	54,168	
		Narrow-gauge sleepers ...	17	28	
		Scraps and pieces ...	401	2,779	
	Trimu ...	Deodár logs ..	72	1,089	
		Pine " ...	240	2,716	
		Narrow-gauge sleepers ...	7	12	
		Other scantlings ...	7	7	
		Scraps and pieces ...	906	...	
		Total Timber ...	31,744	5,87,711	
Gujranwala ...	Jhikar ...	Deodár logs ...	3,598	60,202	
		Pine " ...	43	637	
		Pencil cedar ...	1	11	
		Broad-gauge sleepers ...	492	1,716	
		Sleeper pieces ...	82	...	
	Mooltan ...	Deodár logs ...	19	234	
		Pine " ...	1	8	
		Broad-gauge sleepers ...	76	250	
		Sleeper pieces ...	34	...	
		Total Timber ...	4,346	63,058	
	Jhikar ...	Firewood ...	85	304	
	Mooltan ...	" ...	5	31	
		Total Firewood ...	90	335	
Lahore ...	Chánga Mánga ...	Sissu poles ...	800	...	
	Chánga Mánga ...	Firewood ...	...	1,802,555	
	Jhoke ...	" ...	...	154,251	
	Shahdara ...	" ...	...	1,36,100	
		Total Firewood ...	...	2,092,906	

Annual Form No. 60—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce received from Forests in Sale Depôts during the year 1883-84—concd.

DIVISION	Depôt	Produce Received: Description	Number or quantity	Cubic feet	REMARKS
PHILLOUR	Phillour	Deodár logs	2,217	47,074	
		Pine "	151	2,089	
		Narrow-gauge sleepers	14	..	
		Scraps and pieces	247	...	
	Rúpar	Deodár logs	7,998	177,991	
		Pine "	534	8,675	
		Sleeper pieces	447	...	
		End "	2,071	...	
		Scraps and pieces	1,228	...	
		Total Timber	14,907	235,829	
	Phillour	Firewood	241	...	Maunds.
	Rúpar	"	4,109	...	"
	"	"	...	6,075	
		Total Firewood	4,350	6,075	
	Phillour	Bamboos	461	...	
	"	" pieces	680	...	
	Rúpar	Bamboos	2,213	...	
	"	" pieces	1,487	...	
		Total Bamboos	4,841	...	
		ABSTRACT OF CIRCLE			
		Deodár logs	26,862	683,226	
		Pine "	14,406	286,367	
		Deodár scantlings	5,804	6,461	
		Chil "	738	450	
		Tos "	4,342	5,914	
		Rái "	1,202	1,047	
		Other "	5,640	2,036	
		Broad-gauge sleepers	1,468	4,938	
		Narrow-gauge "	11.871	18,876	
		Scraps and pieces	21,074	21,764	
		Maple logs	1	11	
		Walnut logs	1	8	
		Sissu poles	800	...	
		Total Timber	94,209	1,031,098	
		For 1882-83	127,999	1,112,171	
		Firewood	4,109	...	Maunds.
		"	1,623	2,118,099	
		Charcoal	8,944	...	Maunds.
		Bamboos	683,204	...	Pieces.
	For 1882-83	Firewood	27,978	...	Maunds
		"	...	495,377	
		Charcoal	13,340	...	Maunds.
		Grass	44	...	"
		Bamboos	776,557	...	Pieces

Annual Form No. 61—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1883-84.

DIVISION	Depôt or Locality	PRODUCE SOLD			REMARKS
		Description	Number or quantity	Cubic feet	
		(SOLD FROM DEPOTS)			
RAWALPINDI	Rawalpindi City ...	Other scantlings ..	250	...	
		Planks ...	8	...	
	" Sadr ...	Other scantlings ..	130	...	
		Planks ...	56	...	
		Bamboos ...	18,362	...	
		Firewood ...	10,343	...	Mds.
		Charcoal ..	1,043	...	"
	Murree ..	" ...	10,284	...	"
CHAMBA ...	Shahdara ...	Deodár logs ...	1,471	31,198	
		Pine " ...	130	3,029	
		Broad-gauge sleepers ...	715	2,239	
		Narrow-gauge " ...	13,211	21,095	
		Sleeper pieces ...	332	332	
		Deodár scantlings ..	376	175	
		" slabs ...	3,356	1,292	
		Sleeper pieces, stacks ...	4	545	
		" small ...	8,229	4,098	
		Firewood, stacks ...	80	12,183	
	Shahpur ...	Deodár logs ...	60	2,687	
		Pine " ...	15	362	
		Broad-gauge sleepers ...	5,692	19,659	
		Sleeper pieces ...	1,350	2,631	
		Firewood, stacks ...	28	6,600	
	Kálatop ...	Deodar scantlings ...	3 750	4,370	
		Tos " ...	4,002	5,501	
		Rái " ...	1,163	1,021	
		Chil " ...	1,378	1,001	
		Broad-gauge sleepers ...	52	180	
		Tos sleepers ...	4	17	
BEAS ...	Wazír Bholar ...	Deodár logs ..	37	1,812	
		Pine " ...	23	858	
		Broad-gauge sleepers ...	6,118	21,349	
		Narrow-gauge " ...	10 278	15,417	
		Other scantlings ...	381	1,805	
		Drift and waif wood ...	36	...	
		Maple scantlings ...	3	10	
		Waste-wood ...	277	...	
		Firewood, stacks ...	9	...	
		Deodár scraps ...	1	...	
	Nadaun ...	Deodár logs ...	33	1,378	
		Broad-gauge sleepers ...	167	579	
		Other scantlings ...	14	73	
		Waste wood ...	150	...	
	Nahshaura ...	Deodár logs ...	1	46	
		Pine " ..	2	28	
	Pandain and Dhamtal ...	Bamboos ...	668,825	...	
BASHAHR ...	Suni ...	Deodár logs ...	19	835	
		" scantlings ...	600	476	
		Scraps ...	130	...	
		Slabs ...	338	...	
JHELUM ...	Jhelum ...	Deodár logs ...	3,357	99,284	
		Pine " ...	7,328	158,030	
		Narrow-gauge sleepers ...	14,994	22,567	
		Other scantlings ...	1,598	402	
		Scraps and pieces ...	685	11,139	
	Chak Nizám ...	Deodár logs ...	1,062	33,192	
		Pine " ...	3,681	78,908	
	Khushób ...	Deodár logs ...	1,603	26,975	
		Pine " ...	2,774	51,448	
		Narrow-gauge sleepers ..	17	28	
		Other scantlings ...	1	9	
		Scraps and pieces ...	1,126	6,418	
	Trimu ...	Deodár logs ...	72	1,089	

Annual Form No. 61.—[*Suggested.*]

Forest Department, Punjab.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1883-84—continued.

Division	Depôt or Locality	Produce sold: Description	Number or quantity	Cubic feet	Remarks
Gujranwala ...	Jhikar ...	Deodár logs ...	2,013	35,540	
		Pine " ...	43	637	
		Pencil cedar ...	1	11	
		Broad-gauge sleepers ...	1,069	3,734	
		Narrow-gauge " ...	11,608	17,412	
		Sleepers, pieces ...	82	...	
		Deodár scantlings ...	1.068	532	
		Slabs ...	8,569	8,254	
		Firewood ...	85	304	
Lahore ...	Chánga Mánga ...	Sissu poles ...	800	...	
	" ...	Firewood ...	...	1,465,180	
	Shahdara ...	" ...	...	330,925	
	Jhoke ...	" ...	...	154,200	
Phillour ...	Phillour ...	Deodár logs ...	2,216	47,060	
		Pine " ...	151	2,089	
		Scraps ...	204	...	
		Firewood ...	48	...	Mds.
		Bamboos ...	388	...	
		" pieces ...	663	...	
	Rúpar ...	Deodár logs ...	4,928	91,171	
		Pine " ...	535	8,705	
		Narrow-gauge sleepers ...	12,539	18,808	
		Slabs ...	58	...	
		Butt ends over 2′ ...	188	...	
		Scraps ...	1,453	...	
		Firewood	636	...	Mds.
		" ...	70	...	
		Bamboos ...	3,066	...	
		" pieces ...	1,675	...	
		Sold locally			
Hazara ...	Dungagali ...	Hardwood ...	10,383	13,351	
		Scantlings ...			
		Paluddar scantlings ...	6,570	7,087	
		Biár shingles ...	143,108	...	
		Paluddar shingles ...	27,000	...	
Rawalpindi	River ...	Deodár logs ...	210	...	
	Murree Range ...	Planks ...	206	...	
		Scantlings ...	218	...	
		Firewood ...	16,769	...	Mds.
	Kahuta ...	" ...	100	...	"
Chamba ...	River bank ...	Deodár logs ...	203	5,689	
	Forests, &c. ...	Pine " ...	19	533	
		Deodár scantlings ...	5,920	4,777	
		Ash " ...	8	4	
		Scraps and pieces ...	12	...	
		Firewood, stacks ...	...	63,346	
Beas ...	Various ...	Deodár logs ...	1	662	
		Chil scantlings ...	883	2,820	
		Miscellaneous ...	787	...	
		Firewood ...	5	...	Mds.
Gujranwala	Siálkot ...	Sleepers ...	1	3	
	Kikranwáli ...	Firewood ...	...	3,450	

Annual Form No. 61.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1883-84—concluded.

DIVISION	Depôt or Locality	PRODUCE SOLD			REMARKS
		Description	Number or quantity	Cubic feet	
LAHORE ...	Nag ...	Tún pieces ...	...	111	
		Firewood ...	...	701	
	Carob Plot ...	" ...	...	2,400	
	Sarai Amánat Khan ...	" ...	...	5,400	
	Mahmud Buti ...	" ...	...	1,200	
	Rosseh ...	" ...	...	900	
PHILLOUR ...	Transit depôts ...	Deodár logs ...	1	13	
	Hurriki ...	" ...	1	...	
	Kalesar ...	Tors ...	217	...	
	Hurriki ...	Scraps ...	1	...	
	Transit depôts ...	" ...	2	...	
	Kalesar ...	Ballís ...	2	...	
		ABSTRACT OF THE CIRCLE (SOLD FROM DEPOTS)			
		Deodár logs ...	16 872	372.266	
		Pine " ..	14,682	304,094	
		Broad-gauge sleepers ...	13,813	47,740	
		Narrow-gauge " ...	62,647	95,327	
		Deodár scantlings ...	5.794	5,553	
		Tos " ...	4,006	5,518	
		Chíl " ...	1,378	1,001	
		Rái " ...	1,163	1,021	
		Other " ...	2,374	2,289	
		Maple " ...	3	10	
		Scraps and pieces ...	26,568	34,709	
		Planks ...	64	...	
		Pencil cedar logs ...	1	11	
		Sissu poles ...	800	...	
		Total Timber ...	150,165	869,539	
		For 1882-83 ...	96,734	783,143	
		Bamboos ...	687,439	...	Pieces,
		Firewood ...	10,979	...	Mds.
		" ...	320	1,969,392	
		Charcoal ...	11,327	...	Mds.
	For 1882-83	Bamboos ...	773,779	...	Pieces,
		Firewood ...	49,562	...	Mds.
		" ...	83	387,618	
		Charcoal ...	13,987	...	Mds,
		Grass ...	44	...	"
		SOLD LOCALLY.			
		Deodár logs ...	416	6,365	
		Pine " ...	19	533	
		Other scantlings ...	220	...	
		Chíl " ...	883	2,820	
		Deodár " ...	5,920	4,777	
		Tors " ...	217	...	
		Hardwood " ...	10,383	13 351	
		Paluddar " ...	6,570	7,087	
		Ash " ...	8	4	
		Sleepers ...	1	3	
		Planks ...	206	...	
		Scraps ...	802	...	
		Tún pieces ...	...	111	
		Total Timber ...	25,645	35,051	
		For 1882-83 ...	45,971	87,844	
		Firewood ...	16,874	...	Mds.
		" ...	...	77,397	Ct. ft. stacked,
		Shingles ...	1,70,108	...	Pieces.
	For 1882-83	Bamboos ...	21	...	
		Firewood ...	13,660	...	Mds.
		" ...	997	479,781	Ct. ft. stacked,
		Brushwood ...	2,683	...	Mds.
		Shingles ...	490,115	...	Pieces.
		Charcoal ...	4	...	Mds.

Annual Form No. 62.—[*Prescribed.*]

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1883-84.

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
Balance in hand at commencement of the year				
Rawalpindi Division				
Scantlings ...	380	...		
Planks ...	64	...	444	...
Chamba Division				
Deodár logs ...	1,540	31,022		
Broad-gauge sleepers	10,038	33,229		
Narrow-gauge "	6,871	11,859		
Scraps and pieces ...	1,347	5,008		
Deodár scantlings...	1,217	741		
Tos " ...	671	534		
Rai " ...	71	67		
Oak " ...	63	36		
Chil " ...	640	550	22,458	83,041
Beas Division				
Deodár logs ...	170	6,237		
Walnut " ...	27	162		
Maple " ...	42	278		
Box-wood ...	10	6		
Broad-gauge sleepers	6,094	21,266		
Other scantlings ...	609	2,235		
Walnut " ...	25	45		
Maple " ...	202	509		
Scraps and pieces...	133	...	7,312	30,738
Jhelum Division				
Deodár logs ...	2,235	47,812		
Pine " ...	6,530	108,544		
Other scantlings ...	364	679		
Scraps and pieces ...	895	6,701	10,024	163,733
Gujránwála Division				
Deodár logs ...	854	21,179		
Broad-gauge sleepers	1,069	3,731		
Ash logs ...	1	9		
Scraps and pieces ...	23	...	1,947	24,919
Phillour Division				
Deodár logs ...	1,419	33,299		
Pine " ...	1	30		
Scraps and pieces ...	232	...	1,652	33,329
Total Balance ...	...	...	43,837	335,760
Received from the Forests in Depots				
Deodár logs ...	26,862	683,226		
Pine " ...	14,406	286,367		
Deodár scantlings ...	5,804	6,461		
Chil " ...	738	450		
Tos " ...	4,342	5,914		
Rái " ...	1,202	1,047		
Other " ...	5,640	2,036		
Broad-gauge sleepers	1,468	4,938		
Narrow-gauge "	11,871	18,870		
Scraps and pieces ...	21,074	21,764		
Maple logs ...	1	11		
Walnut ...	1	8		
Sissu poles ...	800	...	94,200	1,031,098
Carried over ...	...	...	138,046	1,366,858

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
Removed by purchasers from Depots.				
Deodár logs ...	16,872	372,266		
Pine " ...	14,682	304,094		
Broad-gauge sleepers ...	13,813	47,740		
Narrow-gauge sleepers ...	62,647	95,327		
Deodár scantlings	5,794	5,553		
Tos " ...	4,006	5,518		
Chil " ...	1,378	1,001		
Rái " ...	1,163	1,021		
Other " ...	2,374	2,289		
Maple " ...	3	10		
Scraps and pieces	26,568	34,709		
Planks ...	64	...		
Maple logs	1	11		
Sissu poles ...	800	...	150,165	869,539
Sold locally.				
Deodár logs ...	416	6,365		
Pine " ...	19	533		
Other scantlings...	220	...		
Chil " ...	883	2,826		
Deodár " ...	5,920	4,777		
Tors ...	217	...		
Hard-wood scantlings ...	10,383	13,351		
Paluddar scantlings	6,570	7,087		
Ash " ...	8	4		
Sleepers ...	1	3		
Planks ...	206	...		
Scraps ...	802	...		
Tún pieces ...	...	111	25,645	35,051
Converted into sleepers in Depots.				
Deodár logs ...	6,157	146,387		
Pine " ...	4	46		
Broad-gauge sleepers ...	2,809	8,764	8,970	155,197
Rafted to other Depots.				
Deodár logs ...	143	2,185		
Pine " ...	3	26		
Broad-gauge sleepers ...	358	1,117		
Narrow-gauge sleepers ...	4,456	7,111		
Pine sleepers ...	21	31	4,981	10,470
Used by the Department.				
Deodár logs ...	8	330		
Pine " ...	7	227		
Deodár scantlings	481	515		
Tos " ...	808	747		
Other " ...	167	134		
Rái " ...	110	93		
Paludder " ...	63	46		
Oak " ...	6	4		
Narrow-gauge sleepers ...	27	37		
Scraps and pieces	178	204	1,855	2,337
Returned to vendors.				
Narrow-gauge sleepers ...	2,538	3,807	2,538	3,807
Carried over ...	...	...	194,154	1,076,401

Annual Form No. 62.—[*Prescribed.*]—continued.

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
Brought forward ...	...	...	138,046	1,366,858
Received by conversion in Depots.				
Narrow-gauge sleepers ...	52,474	72,575		
Deodár scantlings ...	2,454	1,654		
Scraps and pieces ...	9,092	8,458		
Pine sleepers ...	21	81		
			64,041	82,718
Purchased from vendors.				
Narrow-gauge sleepers ...	14,339	21,508		
			14,339	21,508
Received from the forests and sold locally				
Deodár logs ...	416	6,365		
Pine " ...	19	533		
Other scantlings ...	220	...		
Chil " ...	883	2,820		
Deodár " ...	5,920	4,777		
Tors ...	217	...		
Hard-wood scantlings	10,383	13,351		
Paluddar " ...	6,570	7,087		
Ash " ...	8	4		
Sleepers ...	1	3		
Planks ...	206	...		
Scraps ...	802	...		
Tún pieces ...	...	111		
			25,645	35,051
Received from the forests locally and used by Department.				
Paluddar scantlings	63	46		
			63	46
Received by transfer from other classes.				
Narrow-gauge sleepers ...	3,100	5,044		
Pine logs ...	1	15		
			3,101	5,059
Total ...	...	...	245,235	1,511,240

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
Brought forward	...	...	194,154	1,076,401
Returned to owners.				
Deodár logs ...	4,576	156,407		
Pine " ...	1,523	39,279		
Other scantlings...	3,945	1,494		
Sleepers ...	979	2,231		
Scraps and pieces	481	...		
			11,504	199,471
Transferred to other classes.				
Broad-gauge sleepers ...	3,100	5,044		
Deodár logs ...	1	15		
			3,101	5,059
Lost by measurement				
Deodár logs ...	...	284		
			...	284
Balance in hand at the close of the year.				
Chamba Division				
Narrow-gauge sleepers ...	3,211	4,817		
Broad-gauge sleepers ...	989	3,157		
Deodár scantlings	2,402	2,048		
Tos " ...	199	183		
Other " ...	57	32		
			6,858	10,237
Beas Division				
Deodár logs ...	404	11,141		
Pine " ...	100	2,144		
Walnut " ...	28	170		
Maple " ...	42	278		
Box-wood ...	10	6		
Broad-gauge sleepers ...	132	424		
Narrow-gauge sleepers ...	4,719	7,079		
Other scantlings	224	452		
Walnut " ...	25	45		
Maple " ...	199	499		
Scraps and pieces	546	275		
			6,429	22,513
Bashahr Division				
Deodár logs ...	1,193	28,322		
Pine " ...	37	663		
Deodár scantlings	697	600		
Scraps and pieces	1,090	...		
			3,017	29,585
Jhelum Division				
Deodár logs ...	506	7,807		
Pine " ...	4,867	54,115		
Narrow-gauge sleepers ...	2,226	3,442		
Other scantlings .	10	1,610		
Scraps and pieces	1,376	2,080		
			8,985	69,054
Gujránwála Division				
Deodár logs ...	996	20,583		
Pine " ...	1	8		
Ash " ...	1	9		
Broad-gauge sleepers ...	568	1,963		
Narrow-gauge sleepers ...	983	1,475		
Scraps and pieces	57	...		
			2,606	24,038
Phillour Division.				
Deodár logs ...	2,161	74,598		
Narrow-gauge sleepers ...	4,098	...		
Scraps and pieces	2,322	...		
			8,581	74,598
Total ...	...	...	245,235	1,511,240

Annual Form No. 62—[*Prescribed*]—continued.

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet	Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
				ABSTRACT.					
Balance at commencement of the year ...	...	...	43,837	335,760	Removed by purchasers ...	...	...	150,165	869,539
Received from the forests in depôts during the year...	...	...	94,209	1,031,098	Sold locally ...	...	...	25,645	35,051
Received by conversion in depôts	...	...	64,041	82,718	Converted into sleepers ...	...	...	8,970	155,197
Purchased from vendors ...	...	...	14,339	21,508	Rafted ...	...	...	4,981	10,470
Received from the forests and sold locally ...	...	...	25,645	35,051	Used departmentally ...	...	...	1,855	3,337
Received from the forests locally and used departmentally	...	...	63	46	Returned to vendors ...	...	...	2,538	3,807
Received by transfer from other classes	...	...	3,101	5,059	„ owners	...	...	11,504	199,471
					Transferred to other classes ...	...	...	3,101	5,059
					Lost by measurement ...	...	...	...	284
					Balance at close of year ...	...	...	36,476	230,025
Total ...	...	...	245,235	1,511,240	Total ...	...	...	245,235	1,511,240

FIREWOOD AND CHARCOAL.

Balance in hand at commencement of the year.					**Removed by purchasers.**				
Rawalpindi Division					Firewood, mds.	10,979	...	10,979	...
					„ cubic feet	320	1,969,392	320	1,969,392
Firewood mds	10,343	...	10,343	...	Charcoal mds.	11,327	...	11,327	...
Charcoal „	3,541	...	3,541	...	**Sold locally.**				
Lahore Division.					Firewood, mds	16,874	...	16,874	...
					„ cubic feet	...	77,397	...	77,397
Firewood, cubic feet	...	194,825	...	194,825	**Used by the Department**				
Received from the Forests in Depôts.					Firewood, cubic feet	24	100	24	100
Firewood,* mds.	4,109	...	4,109	...	**Lost by measurement.**				
„ cubic feet	1,623	2,118,099	1,623	2,118,099					
Charcoal, mds.	8,944	...	8,944	...	Firewood, cubic feet	...	51	...	51
Received from the Forests and sold locally.					**Balance at close of the year.**				
Firewood, mds.	16,874	...	16,874	...	*Rawalpindi Division.*				
Firewood, cubic feet	...	77,397	...	77,397					
Received from the Forests locally and used by the Department.					Charcoal, mds	1,158	...	1,158	...
					Lahore Division.				
Firewood, cubic feet	...	100	...	100	Firewood, cubic feet.	...	337,375	...	337,375
					Gujránwála Division.				
					Firewood, cubic feet ...	5	31	5	31
					Phillour Division.				
					Firewood, mds.	3,473	...	3,473	...
					Firewood, cubic feet	1,274	6,075	1,274	6,075
Total ...	45,434	2,390,421	45,434	2,390,421	Total ...	45,434	2,390,421	45,434	2,390,421
For 1882-83 ...	94,782	1,062,224	94,782	1,062,224	For 1882-83 ..	94,782	1,062,224	94,782	1,062,224

Annual Form No. 62.—[*Prescribed.*]—concluded.

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet	Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
			BAMBOOS.						
Balance in hand at commencement of the year.					Removed by purchasers.				
Rawalpindi Division.					Bamboos ...	687,439	...	687,439	...
Bamboos ...	7,110	...	7,110	...	Rafted.				
Phillour Division.					Bamboos ...	36	...	36	...
Bamboos ...	1,211	...	1,211	...	Used by the Department.				
Received during the year.					Bamboos ...	660	...	660	...
Bamboos ...	683,204	...	683,204	...	Lost by measurement.				
					Bamboos ...	6	...	6	...
					Balance at close of the year.				
					Rawalpindi Division.				
					Bamboos ...	3,286	...	3,286	...
					Phillour Division.				
					Bamboos ...	98	...	98	...
Total ...	691,525	...	691,525	...	Total ...	691,525	...	691,525	...
For 1882-83 ...	784,694	...	784,694	...	For 1882-83 ...	784,694	...	784,694	...

SHINGLES

Balance in hand at commencement of the year					Sold locally.				
Received from the forests and sold locally					Shingles ...	170,108	...	170,108	...
					Balance ...	7,000	...	7,000	...
Shingles ...	177,108	...	177,108	...					
Total ...	177,108	...	177,108	...	Total ...	177,108	...	177,108	...
For 1882-83 ...	508,890	...	508,890	...	For 1882-83 ...	508,890	...	508,890	...

Annual Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected and removed, from the Forests by Consumers or Purchasers, including Pasture, during the year 1883-84.

Division	Produce Removed — Description	Number or quantity	Amount of revenue	Amount actually realized during the year	Remarks
Hazára ...	Chil trees	82	301	301	
	Pine "	117	577	577	
	Total trees ...	199	878	878	
	Dry fallen timber in logs	179	580	580	
	Firewood, cubic feet	239,278	5,064	5,064	
	Grass, bundles	68,338	4,277	4,277	
	Grazing dues	...	1,691	1,691	
	Total grass ...	...	5,968	5,968	
	Other minor produce	...	413	413	
	Total Revenue under R. II ...	...	12,903	12,903	
Rawalpindi ...	Chil trees	634	4,009	4,009	
	Miscellaneous trees	269	487	487	
	Total trees ...	903	4,496	4,496	
	¼ share on trees	...	82	82	
	Branches	...	392	392	
	Firewood, cubic feet ...	127,555	3,826	3,826	
		176,041	3,696	3,696	
	" loads, maunds	80,799	4,956	4,956	Estimated weight.
	" " "	2,828	117	117	Actual.
	Total Firewood ...	83,627	12,595	12,595	
	Charcoal, maunds	4,550	1,990	1,990	
	Limekilns	251	2,676	2,676	
	Total Charcoal ...	...	4,666	4,666	
	Bamboos	730	51	51	
	Grazing permits and loads ...	95,165	2,753	2,753	
	Grass, maunds	1,958	26	26	
	Grazing-lease	...	3,634	3,671	
	Total Grazing ...	...	6,413	6,450	
	Miscellaneous	...	111	111	
	Total Revenue under R. II ...	...	...	28,843	
Chamba ...	Chil trees	50	260	260	
	Plum "	7	3	3	
	Total Trees ...	57	263	263	
	Sleeper, slabs	335	11	11	
	Chil firewood	550	40	40	
	Firewood, loads				
	Total Firewood ...	885	51	51	
	Fodder grass, loads	136	13	13	
	Total Revenue under R. II ...	...	327	327	

Annual Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1883-84—continued.

Division	Produce Removed: Description	Number or quantity	Amount of revenue	Amount actually realized during the year	Remarks
Beas ...	Deodár trees	316	369	369	
	Chíl "	3,905	12,868	12,868	
	Kail "	127	32	32	
	Rái "	23	6	6	
	Tos "	10	2	2	
	Miscellaneous trees	656	128	128	
	Total Trees ...	5,037	13,405	13,405	
	Sál poles and beams	507	33	33	
	Firewood pieces	36	3	3	
	Bamboos	9,942	120	120	
	Grass	...	1,821	1,821	
	Grazing dues	...	3,483	3,483	
	Total Grass ...	...	5,304	5,304	
	Miscellaneous	...	24	24	
	Total Revenue under R. II ...	...	18,889	18,889	
Jhelum ...	Trees	25	9	9	
	Firewood, maunds	200	13	13	
	" cubic feet	1,540	29	29	
	" loads	349	297	297	
	Total Firewood ...	...	339	339	
	Bamboos	...	5	5	
	Grazing	...	12,372	12,372	
	Coal, tons	317	79	79	
	Stone, cubic feet	21,350	69	69	
	Miscellaneous	...	151	151	
	Total ...	...	299	299	
	Total Revenue under R. II ...	...	13,024	13,024	
Gujránwála...	Grazing leases	...	82,716	76,627	
	Grass loads	8,064	303	286	
	" acres	437	438	16	
	" maunds	25	6	6	
	Grazing cattle	23,042	9,010	9,010	
	Total Grazing ...	...	92,473	85,945	
	Firewood, cubic feet	123,000	4,605	4,605	
	" pieces	58	48	48	
	Total Firewood ...	...	4,653	4,653	
	Minor produce	...	542	542	
	Total Revenue under R. II ...	...	97,228	91,140	

Annual Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1883-84—concluded.

Division	Produce Removed: Description	Number or quantity	Amount of revenue	Amount actually realized during the year	Remarks
Lahore ...	Trees	419	2,135	2,135	
	Firewood, cubic feet	1,300,137	39,533	39,533	
	Brushwood, "	999,359	1,726	1,726	
	Total Firewood ...	...	41,259	41,259	
	Grazing and grass	...	35,480	36,343	
	Minor produce	...	1,568	1,568	
	Total Revenue under R. II ...	...	80,441	81,305	
Mooltan ...	Trees	7,619	651	651	
	Firewood, cubic feet	2,602,539	78,756	78,756	
	" loads	711	319	319	
	Brushwood	...	298	298	
	Total Firewood ...	...	79,373	79,373	
	Grazing and grass	...	41,774	39,586	
	Miscellaneous	...	1,112	1,112	
	Total Revenue under R. II ...	...	122,980	120,722	
Phillour ...	Timber, cubic feet	93	17	17	
	Firewood, maunds	6,210	311	311	
	" "	45,850	9,353	9,353	91 acres Phillour Plantation.
	Total Firewood ...	52,060	9,664	9,664	
	Bamboos	1,270	198	198	
	Grass, maunds	2,138	181	181	
	"	...	1,647	1,647	
	" cattle	326	159	159	
	" sheep	6	2	2	
	" permits	14	20	20	
	" contract	...	1,720	1,720	
	Total Grass ...	...	3,729	3,729	
	Total Revenue under R. II ...	...	13,608	13,608	
	Total Revenue of the Circle ...	...	...	380,761	
	For 1882-83 ...	...	...	322,666	

Form No. 65.

Forest Department, Punjab.

Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1883-84

Description of timber and other produce	On hand at commencement of the year			On hand at close of the year			Difference in value		Remarks
	Number	Cubic feet	Value	Number	Cubic feet	Value	In favor of the year	Against the year	
			Rs.			Rs.	Rs.	Rs.	
Deodár timber ...	6,218	1,39,549	87,218	5,260	16,451	87,808	590	...	Valued @ 10 annas per cubic foot.
Pine do. ...	6,531	1,08,571	33,928	5,005	50,930	15,915	...	18,013	Valued @ 5 annas per cubic foot.
Fancy woods ...	80	454	254	81	463	260	6	...	Valued @ 9 annas per cubic foot.
road-gauge sleepers	17,201	58,236	43,003	1,689	5,544	4,222	...	38,781	Valued @ Rs. 2-8 each.
Narrow do. ...	6,871	11,859	10,306	15,237	16,813	25,220	14,915	...	Valued @ Rs. 1-8 each.
Deodár scantlings ...	1,217	741	741	3,099	2,648	2,648	1,907	...	Valued @ Re. 1 per cubic foot.
Walnut do. ...	25	45	45	25	45	45	...	...	Valued @ Re. 1 per cubic foot.
Maple do. ...	202	509	509	199	499	499	...	10	Valued @ Re. 1 per cubic foot.
Other do. ...	2,862	4,101	4,101	490	2,277	2,277	...	1,824	Valued @ Re. 1 per cubic foot.
Scraps and pieces ...	2,630	11,704	731	5,391	2,355	1,348	617	...	Valued @ 4 annas per piece.
Total Timber ...	43,837	335,769	1,80,836	36,476	230,025	1,40,242	...	40,594	
For 1882-83 ...	24,986	110,034	76,403	43,837	335,769	1,80,836	1,04,433	...	
Bamboos ...	8,321	...	606	3,384	...	320	...	286	Valued @ Rs. 9 per 100.
Firewood, maunds ...	10,343	...	5,450	3,473	...	1,362	...	4,088	Valued @ Rs. 25 per 100 maunds.
" cubic feet...	...	194,825	4,310	...	334,680	13,387	9,077	...	Valued @ Rs. 4 per 100 cubic feet.
Charcoal, maunds ...	3,841	...	3,841	1,158	...	1,158	...	2,683	Valued @ Re. 1 per maund.
Total ...	22,505	194,825	14,207	8,015	334,680	16,227	2,020	...	
For 1882-83 ...	45,180	87,066	17,026	22,505	194,825	14,207	...	2,819	
	Total ...		1,95,043	Total ...		1,56,469	...	38,574	
	1882-83 ...		93,429	1882-83 ...		1,95,043	1,01,614	...	

Net difference against the year, Rs. 38,574.

APPENDIX B.

BASHAHR DIVISION.

Statement showing the progress of demarcation up to 31st March 1884.

Names of Ranges and Blocks	How demarcated	Area demarcated: Up to 31st March 1883	Area demarcated: During 1883-84	Area demarcated: Total	Remaining to be demarcated	Total forest area, square miles
Neogli range	Some pillars on lower boundary ..	½	2	2½	20½	23
Tranda "	Lower boundary & where cultivation comes in...	9	6½	15½	15½	31
Kilba "	Lower boundary	10	2	12	8	20
Kailas "	Pillars where necessary ..	9½	5½	15	25	40
Chini "	Pillars on lower boundaries at intervals ...	...	...	...	21	21
Pandrabis	Ditto ...	...	..		45	45
Total ...	...	29	16	45	135	180

GUJRANWALA DIVISION.

RESERVES

Civil District	Names of Reserves	Area in square miles	Demarcated: Up to 1st April 1883: Length in miles	No. of pillars or trenches	Approximate cost	Demarcated: During 1883-84: Length in miles	No. of pillars or trenches	Cost	Balance remaining undemarcated on 31st March 1884	Remarks
Gujrat	Mari ...	1	6	43	...	...	...	...	...	Masonry pillars.
	Dhul ...	1	5½	84	...	...	..	...	...	ditto
	Pabbi ..	39	60	205	...	...	...	...	...	ditto
	Bela Bihlolpur .	...	2½		...	...	...	.	...	Mud pillars.
	" Kaulowál ...	...	1½		...	...	...	...	..	Pillars repaired or removed. Length of boundary not yet known.
	" Syan ...	...			...	...	...	...	...	
	" Kotli Gohan .	...	...		...	...	42	8	...	
	" Sadhoke ...	...	...	188	...	.	48		...	
	" Nath ...	1	...		..	1½	trench	52	...	Continuous trenches made in addition to pillar demarcation.
	" Pindi Tatar ...	1	...		...	¾	Do.	28	...	Do. do.
	Total Gujrat Reserves under Section 34 ..	43	75	520	...	2½	...	87	...	
Gujrat	Rassul ..	2	4½	26	27	...	...	...	1	Masonry pillars.
	Chimmú ...	4	9½	307½	123	...	...	...	...	Trenches.
	Gohar ...	4	8½	233½	28	...	165	45	½	Trenches Balance is between rakhs completing demarcation, 21 trenches 1 chain long and 144 half-chains.
	Bukun ..	9	9½	304½	79	...	130	36	...	Do. 10 trenches 1 chain long, 120 half-chains.
	Bhachchar ...	1	1	28	...	...	24	7	...	Do. 1 trench 1 chain long, 23 half-chains.
	Bhiki ...	5	14	...	17	...	...	...	...	Old system
	Sohawa Kadim ...	6	9½	262½	155	...	117	50	...	Small part still at angles only.
	Sohawa Jadid ...	2	5½	152½						
	Wassu ...	2	4¾	198½	75	...	...	11	...	Clearing lines.
	Shahidanwáli ...	1	3½	137	52	...	...			
	Minargarh ...	1	6	298½	117	...	...	3	1	Do.
	Taranwáli ...	1	2¾							
	Tibbi Tarar ..	...	2½	106	38	...	...	3	...	Do.
	Total Gujrat Reserves under section 19 ..	32	80½	*2,055	711	...	436	155	2½	* This total only represents the number known there are more.
Gujranwala	Bela Thutta Fakirulla	1	¾	Trench	...	1½	Trench	57	...	Continuous trench.
	Kikranwáli ...	1	3½	8	...	...	...	...	...	Trench in addition to 8 masonry pillars.
	Total Gujránwála Reserves under Section 34	2	4½	8	...	1½	...	57	..	
				Proposed		Reserves				
Gujranwala	Khingranwáli ...	2	2½	...	...	...	...	...	2	
	Gujiána ...	10	6	...	...	...	...	.	3	
	Rutti Tibbi ...	12	5	...	...	...	...	...	3¾	
	Lagar ...	7	9½	...	...	...	...	...	...	
	Kamálwáli ...	7	10½	...	...	...	...	.	...	
	Kawalwáli ...	10	11½	...	...	...	...	...	...	
	Makki ...	7	9½	...	...	...	...	...	...	
	Kamoki ...	4	7½	...	...	...	...	...	...	
	Total ...	59	61¾	...	...	...	...	...	8¾	This total number of pillars and trenches only includes those known.
	GRAND TOTAL ...	136	221¾	2,583	...	5¾	436	229	11	

APPENDIX B.—*continued.*

Name of Forest	Area in square miles	Demarcated: *Up to 1st April 1883* — Length in miles	Number	Cost	*During 1883-84* — Length in miles	Number	Cost	Balance remaining undemarcated on 31st March 1884	Remarks
Gujránwála, Protected	140	42¾	...	...	...	...	...	30¾	4¾ miles of balance identical with that of proposed reserves, some demarcation exists.
Gujránwála Proposed Protected.									
Bhágomulli ...	7	9	..	...	...	...	...	...	
Bhikholuháre ...	7	7¾	...	...	...	...	...	...	
Dhában ...	6	2½	...	...	...	..	...	...	
Khingránwáli ...	6	3½	...	...	...	...	...	2	Balance identical with that of the reserve Khingránwáli
Gujána ...	1	2	...	...	...	...	...	2	Balance identical with part of that of reserve Gujána.
Total Gujránwála Proposed Protected ...	27	24½	...	...	..	...	...	4	
Rakh Thinda Jharíána ...	2	4	...	..	...	...	...	...	
Rakh Chichra ...	...	3	...	...	...	...	...	...	
Total ...	2	7	...	..	...	...	...	..	
Jhang Proposed Protected ...	128	...	..	...	...	...	33	31	7 masonry pillars exist.
Chenab Belas ...	13	...	...	...	...	...	...	...	Total length of boundary not known, mud pillars exist.
Bhera Rakhs.									
Bhallowál ..	1	7	204	51	...	...	...	...	
Bahowál ...	5	19	490	122	...	...	..	...	
Rúkun ...	2	7½	205	51	...	..	...	...	
Busál ...	7	11½	298	74		...	.	...	
Pakhowál ...	2	5½	147	37	...	...	...	...	
Musa ...	3	6	159	40	...	...	...	...	
Monah ...	7	6½	172	43	...	...	...	...	
Duffar ...	9	10	266	84	..	...	...	...	
Miáni Gondal ...	9	7½	194	49	...	...	...	...	
Buttoo Kala ...	3	7	177	45	...	...	...	...	
Vairowál ...	2	3	69	...	...	...	...	...	
Melowál ...	1	8	208	52	...	...	...	...	
Pindi Rawán ...	* 3	8	195	49	...	...	...	...	
Abdal ...	1	8	99	25	...	...	...	...	The number of trenches is for 4 miles only.
Uppi ..	4	8	100	25	...	...	...	...	
Khán Muhammadwála ...	6	3½	124½	102	...	...	...	3	66 feet × $\frac{3}{1}$ × 2 at 66 feet distance
Dowal ...	10	9	352½	221	...	...	...	...	Do. do.
Chak Kazi ...	2	6½	158	62	...	...	...	...	50 feet trenches @ 150 feet apart.
Khoja Salah ...	1	4	98	32	...	...	...	...	Do. do.
Salum ...	6	13	346½	...	...	...	...	...	
Hujjun ...	4	11	49	...	...	...	...	...	There is some error in the number of trenches here.
Bhikhi Khurd ...	4	10	395	210	...	...	...	...	66 feet × $\frac{3}{1}$ × 2,
Makko Dhudi ...	8	5	129	...	...	...	...	...	
Chawa ..	...	...	...	...	..	...	...	15	
Lalyani ...	...	...	..	...	25	965½	427	8	
Nabbi Shah ...	6	¾	34½	48	...	...	...	5	
Marulianwáli ...	...	...	...	...	..	...	..	8	
Kot Moman ...	...	...	...		..	...	..	19	
Dhori ...	112	...	...	216	10½	416	196	6½	
Ghallapur ...	...	...	...	...	...	...	...	6	
Matila ...	...	...	...	...	...	...	...	17	
Somoranwáli ...	...	...	...	...	...	...	...	4	
Bhagtonwáli ...	...	...	...	...	...	...	...	4	
Mangni ...	...	...	...	...	..	...		7	
Ishar ...	...	1½	52*	...	9	305½	154	...	66 feet × $\frac{3}{1}$ × 2 at 66 feet apart.
Total	223	185¾	4,722	1 618	44½	1,687	177	97½	*52 trenches left out by mistake last year.
Grand Total	393	217¼	4,722	1,618	44½	1,687	810	132½	

APPENDIX B.—*concluded.*

LAHORE DIVISION.

	Name of Reserve	Area in square miles	Demarcated: Up to 31st March 1883 — Miles of boundary	Demarcated: During 1883-84 — Miles of boundary	Demarcated: Total — Miles of boundary	Remarks
1	Lahore: Chánga Mánga ...	28	37	...	37	(1) By masonry pillars at important points—Pottery pillars and trenches at others.
2	Lahore: Shahdara, Jugián and Mahmúd Buti	2	11	5 (*a*)	16	(2) Masonry pillars at important points, mud pillars and trenches at others.
3	Lahore: Jhoke ...	4	14	4 (*b*)	18	(3) Do. do. do.
4	Lahore: Sadhanwáli ...	1	9	...	9	(4) Do. do. do.
5	Lahore: Muzang ...		1	...	1	(5) Wire fencing.
6	Amritsar: Sarai Amánat Khan ...	3	5	(*c*)	5	(6) Masonry pillars at important points, mud pillars between.
7	Amritsar: Bohoru ...		4	(*d*)	4	(7) Do. do. do.
8	Amritsar: Nag ...	1	5 (*e*)	...	5	(8) Do. do. do.
	Total ...	39	86	9	95	

NOTE.—(*a*) Includes Mahmúd Buti, which had apparently been left out before.
(*b*) Wrongly measured before.
(*c*) *and* (*d*) No maps existing.
(*e*) Left out last year by mistake.

BOUNDARIES.

	Range	New masonry pillars built	Old masonry pillars repaired	New mud pillars built	Old mud pillars repaired	Trenching made, feet	Remarks
Lahore Range	Chánga Mánga ...	...	...	...	...	...	Tin numbers of compartment have been frequently repaired.
Lahore Range	Sharakpur ...	...	...	56	...	...	6 posts were put up in new alluvial lands.
Lahore Range	Lahore ...	...	...	...	...	...	
Lahore Range	Detached Circle ...	...	...	32	...	49,381	
Lahore Range	Amritsar District ...	...	...	72	148	...	
	Total ...	...	...	...	...	...	

MOOLTAN DIVISION.

Name of Range and Sub-Range	No. and areas in square miles: No.	Area	Demarcated: Up to 31st March '83 — No. of pillars	Length in miles	During 1883-84 — No. of pillars	Length in miles	Total — No. of pillars	Length in miles	Balance	Remarks
RESERVES										
Montgomery Range	20	87	...	176	...	...	...	176	...	This 176 miles of demarcation is a road 20 feet wide cut round the forest. 55 miles of this road were cleared of roots during the year. This added to total of last year, *viz.*, 97½ = 152½ miles cleared of roots, leaving 23½ miles to be cleared. Numbered posts at all angles.
Mooltan Range Sarai Sidhu Sub-Range.	6	53	106	80	...	...	106	80	...	This 80 miles of 20 feet road is all cleared of roots, and 106 pakka pillars at corners.
Lodhrán Sub-Range	7	12	...	47½	...	¼	...	47¾	...	Of this 47¾ miles of 20 feet road, 8¼ remains to be cleared of roots and angles marked by posts.
Mailsi Sub-Range	4	45	...	54½	...	...	...	54½	...	This 54½ miles of 20 feet road is all cleared of roots and angles marked by posts.
UNRESERVED AREA										
Montgomery Range Bucheki ...	1	8	...	9	...	...	...	9	...	This 9 miles of 20 feet road is marked at angles by numbered posts; roots have not yet been extracted.
Mooltan Range Mailsi Sub-Range	5	6	...	...	...	55	...	55	...	These are demarcated with 231 posts at angles, and 596 mud pillars between posts.
Muzaffargarh Range Alipur Sub-Range	1	5	...	...	...	9	...	9	...	This 9 miles of line 10 feet wide is cleared through the jungle.
D. G. Khan Rajanpur Sub-Range.	3	9	...	...	...	14½	...	14½	...	This is a line cut round rakhs, 5 feet in width.
" "	3	16	...	...	...	27	...	27	...	This is a line do. do. 19 feet "
D. G. Khan ...	1	3	...	...	310	10	310	10	...	This is a line 20 feet mud pillars at angles.

NOTE.—All other rakhs in division are demarcated by the trenches 10 × 1 × 1 cut at intervals round the boundaries, or by mud pillars.

TABLE OF CONTENTS.

	Para.
INTRODUCTION	1—10
CHAPTER I.—Areas and Boundaries—	
1. Areas	11—32
2. Boundaries	33—44
CHAPTER II.—Surveys, Working Plans, and Annual Plans of Operations—	
1. Surveys	45—57
2. Working Plans	58—64
3. Plans of Operations	65
CHAPTER III.—Protection and Improvement—	
1. Establishment	66—71
2. Breaches of Forest rules	72—78
3. Forest fires	79—92
4. Grazing and fencing	93—106
5. Natural reproduction	107—116
6. Artificial reproduction...	117—133
7. Forest improvement	134—138
8. Exotic and European trees	139—145
9. Communications and Buildings	146—158
CHAPTER IV.—Yield and Working—	
1. Departmental operations	159—181
2. Removal of produce by purchasers	182—191
3. Free grants of forest produce	192—193
4. Summary of produce removed from the forests ...	194
5. Imports and Exports of timber	195—196
CHAPTER V.—Financial Results	197—202

Statements exhibiting the Annual Accounts.

Form No. 49.—Area of Reserved Forests.
" " " — " of Protected Forests.
" " " — " of Unreserved Forests.
" " 50.— " of Plantations.
" " 51.— " of Forest tracts protected from fire.
" " 52.—Prosecutions for breaches of Forest rules.
" " 53.—Summary of Revenue and Expenditure.
" " 54.—Account Current.
" " 55.—Outstandings and Liabilities on account of contractors and disbursers.
" " 56.—Revenue received and Outstandings on account of Revenue.
" " 57.—Financial results.
" " 58.—Trees felled.
" " 59.—Outturn of timber and other produce cut and collected by Government agency.
" " 60.—Timber, &c., brought to Depôt.
" " 61.—Timber, &c., sold from Depôts and locally.
" " 62.—Timber account of the year.
" " 63.—Timber and other produce cut, collected and removed from the forests.
" " 65.—Abstract showing the value of timber and other produce at Sale Depôts.

Appendices.

Table showing progress in demarcation	A
Annual plan of operations for 1884-85	B

No. 918F., dated Simla, the 18th September 1885.

From—A. MACKENZIE, Esq., Secretary to the Government of India, Home Department,

To—The Junior Secretary to the Government of the Punjab.

I AM directed to acknowledge the receipt of your letter No. S. 1165, dated the 31st ultimo, forwarding the Progress Report of Forest Administration in the Punjab for the year 1884-85, with His Honour the Lieutenant-Governor's review thereof.

His Excellency the Governor General in Council notices, with pleasure, the punctuality with which the Review and the Report have been submitted, and the accuracy with which the statements appended to the Report have been prepared.

2. No addition has been made to the area of Reserved Forests; but, on the other hand, 2 square miles of Forest Reserves have been disafforested under the orders of the Government of India, and a correction has been applied to last year's statement in consequence of a more detailed survey, by which the area of Reserves is further reduced by 5 square miles. The Reserves comprise now 1,391 square miles. The extent of Protected Forests has not been increased during 1884-85, and the areas of Reserved and Protected Forests amount to only 6 per cent. and 1 per cent., respectively, of the whole Forest area at the disposal of the State.

Under these circumstances, it is satisfactory to observe that an addition to the area of Reserved Forests is contemplated and may be expected at an early date.

3. Forest Settlement in the Punjab seems to progress but slowly, and will, it is feared, be costly in proportion. The remarks made in paragraph 11 of the Conservator's Report, which refer with equal force to Forest Settlement under Chapter IV of the Indian Forest Act, deserve, in the opinion of His Excellency the Governor General in Council, Sir Charles Aitchison's careful consideration, with special reference to the remarks made by the Government of India in the Circular Resolution of this Department, No. 21F., dated the 31st ultimo, on the subject of the settlement of the status of all Reserved and Protected Forests.

Since the end of the year rules have been issued for the closer association of Civil and Forest officers, which place Forest officers in the position of Assistants to the Deputy Commissioners. This fact furnishes an additional reason for confining Forest Settlement Officers to their proper work and leaving details of future forest management to the Department working under the control of the Local Government. The Government of India is glad to see that the rules, which have been brought to its notice in the monthly volumes of Proceedings of the Punjab Government, provide, as far as the present organization permits, for the management of the whole State property in forest and waste lands by one and the same agency, as well as for the eventual extension of such management to Districts which cannot at present be provided with a District Forest Officer.

4. The progress made in the permanent demarcation of boundaries is satisfactory. Demarcation by means of trenches in the *bar* lands of the Punjab, where the rainfall is scanty and little or no erosion takes place, possesses the merit of cheapness as well as durability. It is observed that demarcation of this character costs less than Rs. 10 per mile. The area of Reserves surveyed up to date amounts to 473,510 acres, or nearly 740 square miles. As the Punjab Government has, since the end of the year, availed itself of the services of a party deputed from the Imperial Forest Survey, it is expected that rapid progress will be made in the survey of the remaining Reserves; though in many cases the work can only be undertaken in connection with, or after the completion of, Forest Settlement operations.

The Forest Survey party, whose services were originally demanded for the Chamba Forests, broke ground in the leased forests of Bashahr, as the revision of the Chamba Forest lease was under consideration. The preparation of a

set of Provincial maps, showing all areas under the control of the Forest Department classified as Reserved, Protected, and Unreserved Forests, commends itself to the Government of India, and I am to request that 3 copies may be submitted to this Department in due course.

5. The Working-Plans Branch collected during the year data regarding the forests on the Upper Ravi, leased from the Chamba State, and the tangible results in the shape of a Working-Plan may be expected during the present year. The compilation, by the Working-Plans Division, of handy abstracts of the records-of-rights of the Jhelum Reserves, will doubtless help to facilitate their control on the part of the Deputy Commissioner and the District Forest Officer, and His Excellency the Governor General in Council is glad to observe that the Lieutenant-Governor has been able to record his satisfaction with the work of this important branch of the Department. The remark made by the Lieutenant-Governor that it is unnecessary that the annual plans of operations should be printed as an appendix to the Provincial Forest Reports is approved of by the Government of India.

6. The Courts disposed of 1,074 cases of breaches of Forest rules, against 968 in 1883-84. Convictions were obtained in 75 per cent. of the cases, against 77 per cent. in the previous year. The number of cases compounded rose from 298 in 1883-84 to 831 in the year under review. The large increase in prosecutions does not, nevertheless, to judge from the Conservator's remarks, seem to have resulted in the efficient protection of the forests. Under these circumstances, His Excellency the Governor General in Council is glad to observe that the Lieutenant-Governor has enrolled the influence of the District officials in this cause, and has called on them to render active assistance in preventing the forest rights of Government from being encroached upon. In paragraph 6 of the Review by the Government of India of last year's Annual Report, the impossibility was noticed of controlling and protecting the Government Forest property in the Muzaffargarh District, owing to a misinterpretation of the law. This unsatisfactory state of affairs has now been successfully and finally laid to rest, by a ruling of the Punjab Chief Court on a trial case sent up for that purpose.

7. The results of fire protection are exhibited in the following table :—

Year.	Area attempted.	Failures.	Area protected.	Percentage of failures to area attempted	Cost per square mile protected.
	S.M.	S.M.	S.M.		Rs.
1884-85	324	...	324	...	3
1883-84	76	6	70	8	8
Increase or decrease in 1884-85	248	—6	254	—8	—5

The Government of India shares the Lieutenant-Governor's satisfaction in the general decrease of offences connected with injury to forests by fire, and thoroughly approves of His Honour's action in suspending for a time the rights of the villagers over the areas burnt in the Hazara Division. Sufficient warning seems to have been given that a repetition of the conflagrations would be followed by a temporary suspension of the exercise of all rights, and a strict adherence to the orders passed will, it is hoped, effectually prevent a recurrence of the offences.

8. 1,292 square miles of forests escaped fires without any special measures for their protection being adopted. This is very satisfactory, but I am nevertheless to suggest the advisability of assisting fire-protection in the Hazara

District by a cheap system of fire lines, which are eminently successful in the Central Provinces. This would prevent the accidental spreading of fires into the reserved areas.

9. The area closed entirely against grazing has been increased from 167 to 489 square miles, and that closed for part of the year from 78 to 310 square miles. The area closed against browsing animals is given at 313 square miles, against 539 square miles during the previous year. This is evidently a mistake, as apparently the area closed against grazing animals is entirely shut against browsers. The question of grazing reserves and the management of grazing in forests and waste lands at present occupies the Lieutenant-Governor's attention. It seems clear that it would be a wrong policy to permanently withdraw areas which need not be closed against grazing, but browsers are so extremely harmful to all forest growth that their admission should always be considered most carefully.

10. His Excellency the Governor General in Council has been much interested in reading Mr. Hill's remarks on natural and artificial reproduction. It is clearly shown that, however valuable the assistance may be which is rendered by artificial cultivation in the re-stocking of the Deodar forests in the Alpine forests of the Punjab and its dependencies, it is at present, so previous experience has shown, impossible to rely entirely on cultural operations. Natural reproduction is, and must remain for some time to come, the mainstay for the re-stocking of the forests. Since fires have been regularly kept out of all Deodar forests, a great improvement has taken place in their natural reproduction in almost all Divisions. But, however vigorous the natural reproduction of Deodar may be under more careful protection and management, large areas, many of which were once occupied by Deodar forests, or are well-suited for being converted into a Deodar forest, can only be stocked by means of artificial culture, and in all cases natural reproduction greatly profits by artificial assistance. His Excellency the Governor General in Council observes therefore with pleasure that considerable progress has been made in the formation of nurseries in all Hill Divisions, except Hazara, where, it is hoped, the good example set in the other Divisions will soon be followed.

11. Paragraph 113 of the Conservator's Report seems to indicate that nothing but immunity from fires is required to ensure at once a marked improvement in the natural reproduction of the lower Hill forests. The experiments regarding natural reproduction on *bar* lands should be continued. The results can only be of value if these experiments are carefully and conscientiously carried on for a number of years, and on a more considerable scale than heretofore. The *reboisement* of the Pabbi is watched with great interest. Considerable attention seems to have been paid to forest improvement. The results of artificial reproduction are tabulated as follows:—

	Area at the commencement of the year.	Area added during the year.	Area at the close of the year.
	Acres.	Acres.	Acres.
Regular plantations	15,367	86	15,453
Cultural operations	2,573	282	2,855
Total ...	17,940	368	18,308

There seems to be no doubt that the acreage included in Form No. 50 represented, in some instances, a larger extent of area than that actually operated upon, and included the entire tracts of forests closed for improvement by cultural operations. Thus, in several instances, credit was taken for the advance growth due to natural reproduction. A corrected statement will, it is understood, be submitted with next year's Report.

12. The produce removed from the Government Forests is shown in paragraph 194 of the Conservator's Report as follows:—

Description of Produce.	1883-84.	1884-85. By Government agency.	1884-85. By purchasers.	1884-85. Free grants.	1884-85. Total.	More.	Less.
Trees and poles cut, No. ...	*67,088	4,617	25,787	82,755	1,13,159	46,071	...
Firewood, cubic feet stacked ...	†76,16,238	21,11,460	67,42,641	...	88,54,101	12,37,863	...
„ maunds	71,962	1,185	..	...	1,185	...	70,777
„ pieces	94	1,769	...	...	1,769	1,675	...
„ loads	82,060	...	...	...	...	...	82,060
Charcoal, maunds	4,550	9,845	...	...	9,845	5,295	...
Bamboos, pieces	6,99,381	6,28,207	17,335	...	6,45,542	...	53,839
Coal, tons	317	..	...	..	...	...	317
Stone, cubic feet	21,350	...	25,450	..	25,450	4,100	...
Grass maunds	4,608	...	2,945	...	2,945	...	1,663
„ loads	76,538	2	31,182	...	31,184	...	45,354

* Erroneously shown as 61,453 in last year's Report.
† Erroneously shown as 56,46,846 in last year's Report

The quantity of timber received in depôts during the year shows a decrease of 492,638 cubic feet, which is attributed to scanty floods on all the main rivers. The failing floods have also caused a corresponding falling off in the import of foreign timber. Local sales show again an improvement on those of the previous year. Free grants cannot be compared with those of last year, as fair-sized trees and poles have this year, for the first time, been separated in all Divisions, except the Kulu Division. The value of free grants, and of trees and bamboos granted on favourable terms, is estimated to represent a remission of some Rs. 62,000 of Government revenue.

13. The financial results compare with those of the previous year as follows:—

Year.	Receipts.	Charges.	Surplus.
	Rs.	Rs.	Rs.
1884-85	7,49,352	5,58,070	1,91,282
1883-84	9,10,177	6,53,146	2,57,031
Decrease in 1884-85	1,60,825	95,076	65,749

Rupees 10,000 have been spent on stores and plant in excess of last year's expenditure, and two years' water-rate had to be paid for the Changa Manga plantation. Taking, moreover, into consideration the failure of good floods on all rivers, the results of the year are on the whole satisfactory.

No. 919 F.

COPY, with copy of the Report and Review referred to, forwarded to the Inspector General of Forests to the Government of India for information, with reference to paragraph 5.

Govt. C. B Press Simla.—No 754 H D.—23-9-85.—360.

Proceedings of the Hon'ble the Lieutenant-Governor of the Punjab, in the Forest Department; No. 1163 S., dated Simla, 31st August 1885.

READ—

The Report on the progress of Forest Administration in the Punjab during the year 1884-85, submitted by the Conservator under his letter No. 86 C.L., dated the 10th of July 1885, and received on 20th of August 1885.

REMARKS.—There is little in the present Report which calls for special remark, and nothing which requires any modification of the views regarding the forest administration of the Punjab which have been recorded by the Lieutenant-Governor in the Reviews of the past three years. With the exception of paragraphs which deal with natural and artificial reproduction, the objects of the Report would have been equally served if only the forms attached to it had been submitted to Government with a few explanatory remarks in each case. The Lieutenant-Governor will be glad if the Conservator will do his best to make the Report as brief as possible, and to confine his remarks to the really important matters which require notice in connection with the work of the year. Nothing is gained by repeating in the body of the Report for each division information which is available on the face of the returns attached to the Report; and if this is carefully borne in mind, the Forest Report may without loss, but on the contrary with much advantage, be reduced to half the size of the present compilation in all years in which the subjects of reproduction, cultivation and improvement are not treated at length. The bulk of the Report has been greatly added to on the present occasion by the inclusion of printed statements of annual plans of operations.

2. Of the general administration of the past year it is unnecessary to say much. Rules for the closer association of Civil and Forest Officers have been approved by the Government of India, and have been issued since 31st March 1885. Since the close of the year also the first regular forest survey in the Punjab has been commenced in Bashahr and the Simla District. The question of the demarcation of village wastes in Hazára demanded special consideration during the year, and proposals for the modification of the Hazára Forest Regulations were submitted to the Government of India. For the present, action in the matter has been deferred pending a further examination of the subject by the Deputy Commissioner of the district. The memorandum on grazing in forest areas, which was drawn up by Mr. Ribbentrop, is now before the Lieutenant-Governor, and orders will, it is hoped, be issued upon it shortly. During the year the Montgomery District suffered severely from drought, and it was found necessary in October last to open the reserves to grazing. A futher report has recently been submitted to the Government of India regarding the fuel-supply of Simla, and the conservation of forests in the neighbourhood of that station and the hill cantonments situated in the Simla District. During the year also the revision of the Chamba lease, and the River Rules proposed for adoption by the Kashmír State, have been under the consideration of the Local Government.

3. The area of reserved forests has been reduced from 1,398 to 1,391 square miles, 5 square miles having been excluded in accordance with the results of the survey in the Ráwalpindi District, and 2 square miles having been abandoned with the sanction of the Government of India. It is hoped, however, that the fresh areas which it is intended to treat as reserved forests in the Ráwalpindi District and in Kulu will be finally gazetted as such during 1885-86. Similarly, no extension in the area of protected forests has taken place during the year, though a large addition may be shortly expected. In the Ráwalpindi District 70 square miles have been marked off, and in Kulu and Inner Seoraj 33 square miles of 1st class and 185 square miles of 2nd class protected forests have been selected and demarcated; while in the Beas Division areas aggregating

about 100 square miles have been placed in the hands of a Forest Settlement Officer with a view to their being brought under Chapter IV. of the Forest Act. Orders will shortly issue with reference to the area measuring some 27 square miles which is to be constituted protected forest in the Gujránwála District. Fair progress has been made in the work of demarcating boundaries. It is noticed that the system of demarcation by trenches possesses the merit of cheapness, as 29½ miles of boundary were laid down in this way at a cost of Rs. 280 in the Montgomery Division. Of the reserved forests of the Province 473,510 acres have been surveyed up to date, and 417,882 acres still remain to be surveyed.

4. The Working Plans Branch has been occupied during the year with the collection of data regarding the leased forests on the upper Ravi River in the Chamba State. The necessary material is now available, and the working plan of the forests will be completed this summer. During the cold weather, while work in Chamba was impracticable, handy abstracts of the records of rights of the Jhelum reserves were drawn up; and a map was compiled for each of the 32 reserved forests of the Jhelum District. The activity displayed by this new agency is commendable, and the work done by it will be of the greatest value hereafter in securing the scientific management of the forest areas of the Punjab. It is unnecessary that the annual plans of operations should be printed as an appendix to the Provincial Forest Report. If the Conservator considers it desirable that they should be printed and circulated for the guidance of Forest Officers, this can be done separately. To judge from the plans of 1884-85 the various schems of operations drawn up for adoption during the year were successfully carried out on the whole.

5. The number of forest offences with regard to which prosecutions have been instituted has steadily increased from 716 in 1881-82 to 1,050 in the present year. The percentage of convictions has remained fairly constant at 75 per cent. The number of offences compounded by Forest Officers in 1884-85 was 831, the average amount of composition money accepted being Rs. 4. The Lieutenant-Governor fully concurs in the observations of the Conservator "that the prevention of offences by means of an understanding with the people is more creditable than the constant recourse to law for the punishment of offenders;" and His Honor further agrees with Mr. Hill that any tendency to judge the efficiency of the protective establishment by the number of cases instituted or the cattle impounded should be peremptorily checked. It is reported that 31,089 head of cattle were impounded during the year, of which 17,692 were seized in the Ráwalpindi Division. No comparison has been made between the number of cattle impounded in the year under Report and in previous years. It will be convenient if a statement of the number of cattle impounded in each Division can be incorporated in Form No. 52. The large number of cattle impounded in the Ráwalpindi Division is noticeable, and the Deputy Commissioner and his Assistants should impress upon the villagers the necessity of refraining from encroachment on the forest rights of Government in this respect. The Lieutenant-Governor notices with satisfaction that offences connected with injury to forests by fire have decreased from 126 in 1883-84 to 76 in the present year, and that the area of reserves which escaped fire without any special measures was 1,292 square miles. The actual expenses of protection against fire amounted to a sum of only Rs. 1,065, representing the cost of watchers and the assistance rendered to the protective establishment for a short period. These facts speak well for the general attitude of the people with regard to forest conservancy. Unfortunately the practice of setting fire to forests appears to be extending in the Hazára Division, in which fires were twice as numerous, and covered an area four times as large as in the previous year. It is hoped that the closure of all lands burnt over and the suspension of rights for five years will convince the villagers of their folly in creating or permitting fires in Government forests. The area now entirely closed against grazing is 489 square miles as compared with 467 square miles in 1883-84, while with a view to the promotion of grass preserves 310 square miles have been closed for part of the year, being 232 square miles in excess of the area so closed in

1883-84. The closer association of District and Forest Officers which has now been effected will doubtless lead to still further extensions of the system of closing lands against grazing for a part of the year. Orders in this connection have been recently issued in dealing with the question of the creation of fuel and fodder reserves in the Punjab.

6. Sir Charles Aitchison has read with great interest the very complete account given by Mr. Hill of the natural and artificial reproduction of forests in the Punjab. The conclusion drawn regarding the natural reproduction in the Alpine Forests are apparently sound, and it is to be hoped that the expectations of the Conservator will be realized with reference to the deodár forests. It is to be regretted that the young chíl seedlings in Pakli should be annually destroyed by fire, and the attention of the District and Forest Officers should be drawn to the necessity for preventing this. The reports of the forests of the lower hills, the hill rakhs, and the bar tracts also show that healthy reproduction is in progress. For the purpose of artificial reproduction numerous nurseries have been formed with varying degrees of success. The force of Mr. Hill's remarks on the necessity of extending operations is obvious, and the instance quoted of the Dungri forest in Kulu, where the same ground has been planted and sown year after year, suggests a want of thought. In the lower hills cultural operations have apparently not advanced beyond the experimental stage. The usual system of ridges and trenches has been followed. In the plain rakhs operations have been fairly successful, but in the Montgomery Division the jhand seed sown broadcast in the reserves, and a large number of farásh cuttings all failed. This is disappointing ; but the importance of establishing plantations in the plains of the Punjab is so great that until the absolute impossibility of success is demonstrated, Forest Officers should not be discouraged in their efforts to improve the rakhs.

7. Owing to scanty floods in all the main rivers of the Punjab, the quantity of timber brought to depôt decreased to the extent of 492,638 cubic feet ; and owing to the same cause a falling-off has occurred under all heads of the timber imported from foreign territory. It is noticed that this is now the third year that there have been no heavy freshets on the Ravi, and that a period of three years usually elapses between the time when logs are launched and the time when they reach the timber depôts. Local exploitation and sales appear to have been fairly active, and it is satisfactory to learn that the Forest Department have taken steps to improve the fuel-supply of Abbott-abad. The question of the fuel-supply of Simla has occupied the attention of the local authorities and Government during the past year, and although the report is silent on the subject, the facts of the case have recently been placed before the Government of India and need not be recapitulated here

8. The financial results for the year show a decrease in the gross revenue of Rs 1,60,825 as compared with that of 1883-84. Expenditure has been reduced by Rs. 95,076, and this reduction has been effected notwithstanding the fact that Rs. 10,000 in excess of last year's expenditure have been spent on stores and plant, and that the water-rate for Chánga Mánga for two years has been disbursed during the year 1884-85. The net profits of the year were Rs. 1,91,000 as compared with Rs 2,57,000 in 1883-84 and Rs. 2,06,300 in 1882-83 ; and the net value of the transactions of 1884-85 was Rs. 1,30,700. On the whole, these results appear to the Lieutenant-Governor to be satisfactory. Of the six Hill Divisions, only two, namely, Chamba and Bashahr, show a surplus, owing to the small quantity of timber sent down to the lower depôts ; but of the Plains Divisions, all except Phillour show an excess of receipts over expenditure. The large outstanding accounts with contractors in the Chamba and Bashahr Divisions should be adjusted as soon as possible ; and a special report should be submitted regarding the outstandings under grazing fees in the Gujránwála Division.

9. In conclusion, the Lieutenant-Governor desires to take this opportunity to thank Mr. Ribbentrop, now Officiating Inspector-General of Forests,

for his successful administration of the Forest Department of the Punjab during the past two years.

ORDER.—Ordered that this Review be circulated as usual with the Report.

Also that it be published in the *Punjab Government Gazette*.

Also that it be forwarded to the Government of India in the Home Department (Forests) for information.

By order of the Hon'ble the Lieutenant-Governor.

H. C. FANSHAWE,

Offg. Junior Secretary to Government, Punjab.

Punjab Government Press, Lahore.—11-9-85—450.

No. 86 C. L., dated 10th July 1885.

From—H. C. Hill, Esquire, Offg. Conservator of Forests, Punjab,
To—The Junior Secretary to Government, Punjab.

I have the honor to submit the Annual Administration Report of the Punjab Forest Department for 1884-85.

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE PUNJAB

FOR THE YEAR 1884-85.

INTRODUCTION.

THE scheme for placing forests and forest or waste lands, as all other matters connected with the District, under the direct control of the Deputy Commissioner, has advanced another step. Rules defining the duties of Forest and District Officers and regulating the conduct of forest business are about to issue.

2. From the 1st April 1884, the Kulu forests were made a separate charge, the Divisional Officer being placed directly under the District Officer. No difficulty has arisen, and the system has worked most satisfactorily. The Montgomery District was separated from Multan and formed into a separate Division from the 5th May 1884.

3. The work of village forest demarcation in Hazara was continued by Mr. Forrest up to the end of October. Since the work began in June 1882, the following areas have been set aside, and management orders have been drawn up under Section 15 of Regulation II of 1879.

Village forests demarcated :—

Tahsil.	Area.	No. of villages affected.
	Acres.	
Haripur . .	30,700	71
Abbottabad . .	66,600	154
Mansehra (less Kaghan)	44,800	49
Total	1,42,100	274

The proceedings caused widespread discontent throughout the District, and as yet the system of management to be applied to these forests has not been finally decided upon.

4. The validity of Notification No. 188 F, dated 9th April 1881, regarding unmarked wood and timber on the Indus and its tributaries was questioned, but the matter was allowed to stand over pending the decision as to a general modification of the Hazara Forest Regulations of 1879. River work on the Indus was carried on as usual.

5. The river rules mentioned in last year's report as promulgated by the Kashmir Durbar, have not been put in force. The local agents of the State have given no trouble, and work has gone on quite smoothly, both on the Jhelum and Ravi rivers.

6. For the term of five years, commencing from 1st January 1885, the Raja of Mandi has leased to Government for the sum of Rs. 500 per annum, the right to collect and dispose of all waif timber on that portion of the Beas river which flows through his State. In accordance with orders issued in November 1884, a portion of the forests of the Mandi State, worked by the Mandi Timber Company, were inspected. The terms of the Mandi lease provide that not less than 1,500 trees shall be felled per annum (for the first year half that number only), and that for every tree felled the lessees shall plant and conserve not less than 10 deodar plants. The latter condition has not been complied with, but on the other hand fewer trees have been felled, *viz* :—

1880	...	485	trees.
1881	...	832	„
1882	...	651	„
1883	.. ...	1,360	„
1884	. .	2,185	„
	Total ..	5,513	trees.

A special report will be submitted after the remaining forests have been visited. Mr. Gisborne Smith concludes, and I have no doubt very rightly, that the forests have been considerably overworked. Fires still continue in the Mandi State, and until these are put a stop to, or restricted to waste lands, exploitation must mean destruction of the forests.

7. On the Sutlej river the people of the Raja of Belaspur collected 107 pieces of timber, of which Mr. Down considered only 16 could be passed as *bona fide* waif. Higher up the river the collections were found to be small and of no value.

The case of 480 trees felled in the Bashahr forests by a contractor, who claimed to have purchased from the Rana of Delti, was settled. It was ruled that the contractor should be allowed to remove free a certain number of trees, the value of which he had actually paid to the Rana. The remaining timber was considered the property of Government.

A lease of the Tanglang forest in Bashahr was concluded with Run Bahadur Singh, Wazir of Poari, in consideration of a yearly payment of Rs. 150, with arrears from 1877.

8. The experiments in silk rearing at Changa Manga were again tried on a much larger scale. 10 lbs. of Japan eggs were obtained from Messrs. Lister and Co., and 3 lbs. of country reared eggs from the same firm. The experiments were in full swing at the close of the year.

9. With a view to reducing the price of wood and fuel at Simla, a quantity of pine and firewood was landed at Suni in the Bhajji State, 19 miles from Simla. It would seem that only such firewood as drifts to Suni can be profitably sold at Simla below the current rates. Deodar when once in the river pays better if taken to Phillour than if disposed of at Simla at present rates. Blue-pine, on the other hand, could be profitably disposed of, if a cart road were made from Simla to Suni.

10. The winter in the hills was very long and severe. Mr. Minniken writes that it was one of the hardest ever known. Avalanches occurred in places where they had not been known before. Great damage was consequently done to young growth in many forests. High winds also caused injury in Bashahr, 26 large deodars were uprooted in East Nachar alone.

The rainy season was again below the average, and the floating season was consequently unfavorable. The end of the year was, however, marked by constant showers, which contributed to the success of cultural operations.

CHAPTER I.—AREAS AND BOUNDARIES.

1.—Areas.

Reserves.

11. Progress must necessarily be slow in this important branch of Forest work owing to the lengthy procedure prescribed by the Act; but reservation under Chapter II would be less costly and make better way, if the work of Settlement were limited to fixing the boundaries, and disposing of rights. All details of management, provisions for the due exercise of admitted rights, and

such like matters find their proper place in the provisions of working plans rather than in Settlement Reports or in rules framed under the Forest Act. Forest Settlement operations have been steadily continued throughout the year, but have resulted in no increase to the area of reserves finally notified.

In the Murree and Kahuta tahsils of the Rawalpindi district 104 square miles only await the issue of the final notification.

The tracts noted in last year's report, as selected in the Kulu and inner Seoraj valleys, aggregating 17¼ square miles, have also been disposed of by the Settlement officer, and 19 additional areas have been selected and partially settled in the Waziri Rupi valley.

The preliminary notification required by Section 4 of the Act was issued in regard to the Kalesar forest and the necessary proclamation published; a similar notification was published with the view of transferring the Kala Chitta protected Forest to the list of Reserves. Proposals to reserve 23,293 acres out of 1,93,488 acres of Government rakh land in the Muzaffargarh District were submitted in October last, and at the close of the year were still under the consideration of the local officers. The contemplated reservation of 5 square miles in the Montgomery District had also been referred to the Deputy Commissioner.

Modifications due to the correction of areas by Survey in the Rawalpindi District reduced the area of Reserved Forests by 5 square miles, and 2 square miles were, with the sanction of Government, abandoned. The total area stood therefore at 1,391 square miles at the close, as against 1,398 square miles at the beginning of the year.

The following is an abstract of Form 19 :—

Division.	Area on 1st April 1884.	Added during the year.	Excluded during the year.	Added on account of faulty estimate.	Excluded on account of faulty estimate.	Total.
	Sqr. miles.	Sqr. miles.	Sqr. miles.	Sqr. miles.	Sqr. miles.	Sqr. miles.
Hazára	236	.				236
Rawalpindi	104	...		9	14	99
Chamba .	196	.				196
Beas	60		1	.		59
Kulu						
Bashahr	180		...			180
Jhelum	308		1			307
Gujránwála	77					77
Lahore	38				.	38
Mooltan	110				.	110
Montgomery	87				...	87
Phillour	2		.		.	2
Total	1,398		2	9	14	1,391

12. *Hazara Division.*—State reserves remain as previously reported. Rules for the management of the military locations have been sanctioned and published; but the areas set apart have not yet been formally transferred to the Military Department.

Most if not all of the locations have, however, now been gazetted, and the Military Department has been asked for a statement of areas. So it is hoped that not only these but also the Civil locations of Dunga-galli, Nathia-galli and Thandiani, along with other small areas taken up for a bazaar and rest-house at Changla-galli &c, which likewise appear to have been overlooked, will be excluded from next year's returns, thus reducing the area of reserves by some 1775 acres.

13. *Rawalpindi Division.*—Advantage was taken of the recent settlement operations to obtain correct figures for the area shown as reserves, and accordingly 9 square miles have been added and 14 deducted during the year. The settlement of the Murree and Kahuta forests was nearly completed and the final notification only is required for 51 square miles of reserves in the Murree Tahsil and 53 square miles in the Kahuta tahsil.

During the year Rs. 968 were paid as compensation in the Murree tahsil, and Rs. 3,050 in Kahuta tahsil; Rs. 4,500 will cover the balance to be paid on this account. In only one case, in the Kahuta tahsil, was a money compensation refused, the owner preferring to take land instead.

14. *Chamba Division.*—The area of reserved forests remains the same. A map was made of the Kainthli forest sufficiently accurate for working purposes, and it was found that the area could be brought up to about 1,100 acres (from 644 acres) by making the prominent ridges the boundaries and including 236 acres of State forest formerly left out. This has been agreed to by the Superintendent of Chamba, and the pillars will be erected next year after the rights of the villagers have been settled and recorded.

15. *Beas Division.*—In the Beas Division, with the sanction of the Government of India, 301 acres of the Karnpur Reserve were granted in full proprietary right to Chowdri Jai Karn of Datarpur. A further area of 321 acres was lost in the re-measurement of this reserve, making a total decrease of 622 acres.

A small piece, 4 acres 3 roods, of the Dhamtal reserved forest has also been excluded, as it was decided that the plot in question belongs to Mahunt Dhian Dass of Dhamtal, see Punjab Government Gazette notification No. 17, dated 23rd January 1885. 68 acres were lost by erosion from the Bagarian and Mallanwal reserve.

The area of reserves in this Division is distributed as follows :—

	Square miles.	
KANGRA DISTRICT.		
Dera tahsil	17	
Nurpur „	16	
Total ...	——	33
HOSHIARPUR DISTRICT.		
Unah tahsil	14	
Dasuya „ ..	10	
Total ...	——	24
GURDASPUR DISTRICT.		
Part of Bagarian Plantation		1
AMRITSAR DISTRICT.		
Gagriwal Rakh		1
Grand Total ...		59

16. *Kulu Division.*— In the Kulu Division there are at present no reserves. A preliminary notification under Section 4 of Act VII of 1878 was issued in April 1884 regarding 19 forests with an approximate area of 11,236 acres. The final notification has not yet been issued pending a decision in the appeal of the Daogi forest case.

17. *Bashahr Division.*— Form No. 49 shows the area of reserved forests in this Division as 180 square miles, an area which is in reality an estimate of the forests roughly demarcated and managed as reserves under the lease.

It has been ordered in Punjab Government No. 28, dated 19th January 1884, to the address of the Commissioner and Superintendent Amballa Division, that portions of these should be demarcated in the spirit of Chapter II of the Forest Act, and the work is in progress.

The additional area of 45 square miles reported in 1883-84, although specially selected and demarcated, was not considered to have been taken up in accordance with these orders. Consequently the demarcation of the more important areas after an enquiry into the requirements of the people, and with a view to the prohibition of all grazing except where specially permitted by the Forest Officer, was only commenced during the year under review.

The progress made is estimated to cover 32½ square miles, distributed as follows :—

Kilba Range	12½
Tranda "	10
Kailas "	10
Total .	32½

These tracts will eventually correspond to reserved forests constituted under Chapter II of Act VII of 1878; but pending the completion of the work, and a correction of the areas by actual survey, now in progress, any modification of Form 49 is uncalled for.

18. *Jhelum Division.*— The exclusion of 509 acres from the Tilla Reserve, Jhelum District, under orders contained in Government of India letter No. 55, dated 21st January 1885, to the address of the Punjab Government, reduces the area of reserves in this Division to 307 square miles.

19. *Gujranwala Division.*— The area of reserved forests in this division remains unchanged.

No orders have yet been received on the proposals submitted with this Office No. 1996, dated 31st March 1884, to the address of the Financial Commissioner, regarding the proposed reserved and protected forests in the Gujranwala District.

A proposal was submitted during the year for the reservation of 300 acres of the Chichrawala plantation, and a preliminary notification under section 4 of the Forest Act was issued on the 9th October 1884.

Slight changes are again reported in the area of reserves, Gujrat District, caused by river action; but no change has been made in the Area statement. The right to 30 ghomaos of land in the Pabbi reserve, belonging to Sher Ali, was purchsed during the year for Rs. 700.

20. *Lahore Division.*— In the Lahore Division 5 acres of the Shahdera plantation were transferred to the Chamba Division for a timber depôt, and 225 acres adjoining the Jhoke reserve were taken in exchange from the zamindars of Chak Bhart, for 194 acres given to them in Rakh Bengali, and added to the Jhoke plantation.

Owing to the death of Mahunt Dhian Dass, the Forest Department took entire charge of the Gandian Rakh, a portion of the Changa Manga reserve, in which the Mahunt had a life right to fuel and fodder.

During the winter months Mr. L. Dane was engaged in settling tenant rights in Rakhs under the District authorities, and his report on them has no doubt been submitted to Government. It is to be regretted that Mr. Dane could not at the same time enquire into rights in the Rakhs under the Forest Department; he has, however, collected a large amount of useful information, and secured to us most valuable lands for fuel and fodder. Proposals for gazetting some of these areas as reserves, together with some of the most valuable rakhs, have been submitted to the Financial Commissioner.

The following areas in reserved forests are under cultivating leases :—

Serai Amanat Khan.—8 acres 1 rood 13 poles to Hira Nai @ Rs. 4 per acre for the first 20 years, and after that @ Rs. 8 per acre. The rent is paid to the Forest Department.

21. *Mooltan division.*—No extension has taken place in the areas of reserves. It is reported that there are still some plots of private land within the reserved areas in Serai Sidhu. As they are lying uncultivated enquiries are being made as to whether they could not be obtained for Government.

22. *Montgomery Division.*—The area of reserves remain unchanged at 87 square miles. The following areas, in lieu of those disallowed by the Deputy Commissioner of the District in Rakhs Kalera and Ranjit Singh, have been selected and proposals submitted to the Deputy Commissioner of Montgomery in view to their reservation under the Forest Act.

Rakh Kassowal	1,800	acres.
„ Jujahore	300	„
„ Darsana	900	„

23. *Phillour Division.*—The preliminary notification under Section 4 of the Forest Act was issued in October 1884 with regard to the Kalesar Forest.

After the close of the year a notification under Section 19 of the Forest Act was issued with regard to the area taken up as reserve in the Kotkai and Kotgarh ilaqua. The area taken up as reserved forest amounts to 8,818 acres.

Slight corrections have been made in the areas of plantations which now stand as follows :—

The Jullundur plantation	...	51	acres.
„ Sarangwal Bir, Block I	.	797	„
„ „ „ Block II	...	139	„
„ Phillour plantation	..	220	„
„ Ludhiana „	...	197	„
The Jagadhri plantation		200	„

PROTECTED FORESTS.

24. No additions were made to the area of protected forests previously reported as 311 square miles.

25. An approximate area of 70 square miles has been marked off in the Murree and Kahuta Tahsils of the Rawalpindi district, and draft rules under Chapter IV of the Forest Act for the management of these forests, as well as of undemarcated forest and waste land, are now before Government.

26. In a like manner 33 square miles of 1st class protected forest and 185 square miles of 2nd class protected forests have been selected and demarcated in the Kulu and inner Seoraj valleys.

Draft rules have been drawn up for the administration of both classes and also a 3rd class of forest representing other lands not included in either of the above classes. The practicability of managing under separate sets of rules such a patch-work of forests (many small in area) as the settlement map discloses, must depend on the conciseness and simplicity of the rules finally sanctioned by His Honor the Lieutenant-Governor.

The forest lands of the Waziri Rupi valley were dealt with by Mr. A. Anderson, C.S., and Mr. Gisborne Smith, after the close of the financial year, and reports have not yet been received. The forest situated in that part of Kulu known as the outer Seoraj, have still to be taken in hand.

27. Certain forest areas of the Beas Division marked off in the Kangra tahsil in 1880-81, and in the Hamirpur tahsil in 1882, aggregating about 100 square miles, have been placed in the hands of a Forest Settlement Officer with a view to their being brought under rules framed under Chapter IV of the Act for the protection of the Government rights, which in these forests extend only to the forest growth and not to the soil.

28. Mr. A. Anderson, C.S., has also been appointed to the settlement of certain areas in the Shahpur-Kandi Forests of the Gurdaspur district. It is also proposed that he should examine and deal with the forests of Bara Banghal lying at the source of the Ráví river, as well as with the wood producing portion of Lahoul. The Officiating Conservator considers that for the present interference with such lands as are situated in Bara Banghal and Lahoul might well be deferred, for nothing can be expected from these out-of-the-way places, and forest settlements carried out so as to allow the full enjoyment of all rights of user to the people, would only leave matters as they are.

29. No orders have yet been passed on the proposal to constitute as protected forests, 17,200 acres or 27 square miles in the Gujranwala District mentioned in last year's report.

It was expected that the transfer of the Jhang forests to the Gujranwala Civil district would take place during the year. Orders were issued directing a line to be laid down which might be accepted as the southern boundary; but, owing to drought and scarcity of labor the proper demarcation of the boundary could not be completed. Out of a total length of boundary of 30½ miles, 16 miles were completed during the year, and it is anticipated that the whole boundary will be demarcated with trenches by 31st March 1886.

UNRESERVED FORESTS UNDER THE CONTROL OF THE FOREST DEPARTMENT.

30. The areas of unreserved forests under the control of the Forest Department have decreased by 2 square miles, due to the following causes:—

Lahore Division.—1,200 acres in Rakh Turkwind granted in proprietary right to Mirza Azim Beg.

194 acres in Rakh Bengali granted to Karm Din and others, zemindars of Chak Bhart, in exchange for 225 acres taken from them and added to the Jhoke plantation.

5 acres in Rakh Patoki made over to the Sind, Punjab and Delhi Railway.

11 acres in Rakh Rosa made over to the Bari Doab Canal for a rajbaha.

1 acre in Rakh Bikuntha made over to the Bari Doab Canal for a rajbaha.

In the *Gujranwala Division* 35 acres were lost by river action, and in the Montgomery Division 150 acres were leased out by the Deputy Commissioner.

One encroachment of less than one acre was discovered in Rakh Ladheki, and is under investigation.

31. In the Lahore Division the Military Department have the right to cut grass over 21 square miles, and they exercise a similar privilege over 17½ square miles of reserved forest in Rawalpindi.

The temporary settlements made by cattle owners, mentioned in para. 28 of last year's report, were all measured up and demarcated, and the occupants called on to pay a yearly rental of Re. 1 per acre, permission to occupy them having been first obtained from the Forest Officer.

All water-courses conveying water to fields of neighbouring villages and running through Government rakhs were measured up and an annual rental fixed. In the Chunian tahsil all rents demanded have been paid up, but in the Lahore tahsil only a portion, as the zemindars of this tahsil, as well as those in the Amritsar district, refuse to pay on the ground that their water-courses were made 15 to 25 years ago and that they have never been asked to pay before. The matter is still under enquiry.

In the Phillour Division the area of block No. III of the Sarangwal Bir has been recorded as 200 acres.

32. *Summary of lands at the disposal of Government in each District.*

Districts.	Total area at disposal of Government.	Reserved Forests	Percentage.	Protected Forests.	Percentage.	Village Forests.	Percentage.	Unreserved Forests.	Percentage.	Forest and waste land under District control.	Precentage.	Lands belonging to other parties in which Government has a right to the trees.	Precentage.	Lands belonging to other parties in which Government can exercise conservancy.	Percentage.
Delhi ..	2	...		...		...	..	..	..	2	100	...	..	...	..
Gurgaon ...	1	...	..	.	.	...	...	...	...	1	...	...	...	...	...
Karnal ..	1	...	..	...	..	...	...	...	...	1	...	...	...	...	...
Hissar .	3	...	...	...	...	..		...	..	3	...	..	..	...	
Rohtak ...	8	...	...	...	...	...	.	...	...	8	...	.	...	...	...
Sirsa ...	..	...	...	...	...	...	...	.	..	...	...	..	...	...	...
Umballa ...	22	½	2	..	...		..	18½	84	3	14	.	...	..	...
Ludhiana ..	½	½	100	.	...	.	...	..	.	...	..	..		...	..
Simla .	229	180	78½	...	...	...	...	34	15	15	6½	..	...	...	..
Jullundur ..	2½	1	40	..	...	.	..	½	20	1	40	...	.	...	..
Hoshiarpur .	425	24	5½	...	..	..	...	66	15½	4	1	100	23½	231	54½
Kangra ..	1,819½	33	2	...		..	...	460	26	½	..	168	9	1,158	63
Amritsar ...	368	4	1	...	...	...	...	..	..	...	...	364	99	...	.
Gurdaspur ..	219	197	90	...	...	...	...	.	..	1	...	21	10	...	.
Sialkot ..	½	...	...	...	...	...	...	..	..	½	100	..	..	...	.
Lahore	1,779	35	2	.		...	...	320	18	6	½	1,418	79½	...	.
Gujranwala ...	250	2	1	140	56	..	..	96	38	12	5	...	...	.	.
Ferozepore ..	...	...	...	...	..	...		...	...	..	..	...	..	..	
Rawalpindi	905	99	1	171	18	...	..	374	42	261	29	..	..	.	.
Jhelum	459	307	67	.	..	.	..	..	.	152	33	...	..	.	.
Gujrat	83½	75	90	.	...	..	.	8	10	½	...	.	..	...	.
Shahpur .	1,247	..	...	..	...		..	434	35	813	65		...	..	.
Mooltan	2,843	110	4	...	...	...	...	57	2	2,676	94		...	...	..
Jhang	3,604	...	...	...	...	..	...	129	3	3,475	97	...	..	..	.
Montgomery .	3,470	87	2½	...	...	.	.	771	22	2,612	75½		..	...	...
Muzaffargarh	483	..	...	...	...		.	89	18½	394	81½	...	..	...	..
Dera Ismail Khan .	1,277	...	...	...			..	...	...	1,277	100	...	...	...	...
Dera Ghazi Khan	380	...	..	...	.		..	29	7	351	93	..	..	...	...
Bannu	154		..	.	...	.	...	...		154	100	...	...	...	...
Peshawar	1	.	..	...	..	.	..	1	100	..	...	...	...	...	...
Hazara	1,440	236	16	.		.	.	...	..	...	...	1,204	84	...	...
Kohat .	140	...	...	..	...	..		...	.	140	100	...	...	...	...
Total .	21,616½	1,391	...	311	...	..	..	*2,887	..	12,363½	.	3275	.	1,389	..

*2,887 + 21 in next column Shahpur-Kandi forests.

2.—Boundaries.

33. *Hazara Division.*—The demarcation of the whole Division is complete with the exception of the 30 pillars still to be erected in the Kaghan range. The position of several permanent boundary pillars under dispute has been finally settled, but a few still remain.

During the year 1,515 pillars in the Khanpur range were numbered. The cost of 36 pillars rebuilt and 93 pillars repaired was Rs. 166.

34. *Rawalpindi Division.*—The demarcation of all the proposed reserves in the Kahuta range was completed during the year, and all but 2 reserves in the Murree range. Considerable progress was made in the demarcation of the proposed protected forests, 17 out of 30 being finished in the Murree tahsil and 14 out of 20 in Kahuta. Protected forests are demarcated with whitewashed cairns, 1 foot below ground, 4 feet above, costing 8 annas each. A statement prepared by the Divisional Officer of the boundary work done at the beginning of the year, during the year, and the work still to be done, will be found in the Appendix

Orders were issued during the year regarding the settlement of the disputed boundaries of the Khairi Murat reserve in the Rawalpindi district, but the Settlement Officer's final report had not been received by the Conservator up to the close of the year.

35. *Chamba Division.*—The forests of Kugti, Dunga Muka, Bara, Tain and Daloren were not visited, and the upper boundary of the forests was not laid down, but, as mentioned in last year's report, this work is of no great importance and can be completed whenever the time can be spared.

The boundary pillars in the Kalatop, Bukloh and Banikhet forests were all kept in good order, and the slight encroachment mentioned in last year's report was rectified. Boundary marks of other forests would seem to have been neglected.

36. *Beas Division.*—500 stone pillars jointed with clay were erected to mark off the 301 acres assigned to Choudri Jai Karn in Karnpur reserved forest. The cost is not reported.

Boundary lines of the reserves were cleared and the pillars repaired where necessary.

37. In the *Kulu Division* 8 new pillars were erected and 111 old pillars repaired, at a nominal cost, over 60 miles of boundary line. These boundary marks are temporary only, and will have to be replaced by a more permanent class of pillars.

38. *Bashahr Division.*—The area of 12½ square miles in the Kilba Range was permanently demarcated. The boundaries extend over 49 miles, and are marked by 81 numbered stone and wood pillars and 39 intermediary cairns. The marking of the 20 square miles selcted in the Tranda and Kailas Ranges was in hand. Expenditure is not given.

39. *Jhelum Division.*—The following table exhibits the progress made in demarcation work in this Division :—

District	Range.	*Number of pillars completed before 1st April 1884*			*Number of pillars completed during 1884-85.*			*Grand Total of work from beginning to end.*			Grand total of cost in rupees.
		Built anew	Repaired	Total	Built anew.	Repaired	Total	Built anew	Repaired	Total.	
Jhelum	Jhelum ...	142	232	374	334	520	854	476	752	1,228	2,315
	Pind Dadan Khan ...	122	374	496	593	998	1,591	715	1,372	2,087	
	Total ...	264	606	870	927	1,518	2,445	1,191	2,124	3,315	2,315

Of the total cost only Rs. 1,903 were disbursed during the year, Rs. 412 having been paid previously. The work of repairing pillars in the rakhs of the Salt Range, mentioned in last year's report, has now been completed at a cost of 11 annas per pillar.

A commencement was also made during the year of laying down, in the field, the boundaries of lands (inside the reserves) held by private owners, and in four rakhs,—Garat, Paniala, Jindi and part of Nili,—the boundaries of such lands were fixed by the District Patwáris and temporary marks erected, but, pending verification by the District Kanungo, of the Patwáris' work, no permanent demarcation has been attempted.

40. *Gujranwala Division.*—In last year's report it was mentioned that 2¼ miles of boundary line in the Gujrat district remained to be done. Of this, ¼ mile was completed during the year, leaving 2 miles to be completed still. These 2 miles were purposely not completed, pending in one case the decision regarding a grant, and in another owing to the boundary being disputed.

In the Bhera tahsil the demarcation of the boundaries of unreserved forests has not progressed satisfactorily, owing in a great measure to want of labor. Only 6 miles, out of 50 proposed in the annual plan of operations, were completed. A statement showing the boundary work of the Division up to the close of the year, will be found in the Appendix.

41. *Lahore Division.*—All the reserves in the Division are properly demarcated by masonry pillars and trenches. Existing boundaries were inspected during the year, and, where necessary, repaired. In the demarcation of the unreserved forests in the Division no alteration has taken place, the boundaries have been inspected and kept in repair. A statement showing the boundary work done up to the end of the year will be found in the Appendix.

42. *Mooltan Division.*—15 chains of boundary line were cut in Bura Kotla reserve in the Serai Sidhu Range; 51 posts were numbered in reserve Sahoki, and 1 mile of boundary line strengthened in reserves Tajwana and Kaora in the Mailsi Range. In the Lodhran Range 18 chains of 20 feet boundary line were cut at a cost of Rs. 5-15-0, and roots were grubbed out from 20 miles 35 chains of boundary. In the unreserved forest Bahadarpur 3 miles 30 chains of 10 feet boundary line were cut at a cost of Rs. 44-7. In the Muzaffargarh district 7 miles 19 chains of 20 feet boundary line were cut at a cost of Rs. 66-7-9, and in the Dera Ghazi Khan district 1¼ mile of 10 feet line at a cost of Rs. 8-11-0. A Statement showing the boundary work done during the year will be found in the Appendix.

43. *Montgomery Division.*—All the reserves in this division are demarcated by 20 feet lines cut through the forest with numbered wooden posts at angles. The boundaries round some of the reserves have also been marked by trenches, and this work has still to be carried to completion. Existing boundaries have been kept in order, and all growth carefully removed. 29¼ miles of boundary line were during the year demarcated by trenches at a cost of Rs. 280-13-9, 4 miles in addition were trenched, of which the cost is not given, and 225 numbered wooden posts erected, where necessary, at a cost of Rs. 14. The demarcation of unreserved areas in this Division is reported to be very indistinct where they adjoin Government waste lands, and to be marked by mud pillars where it abuts private lands. An area of 11,200 acres was marked off for closing against browzing animals, but this has since been thrown open. A Statement of demarcation work done during the year will be found in the Appendix.

44. *Phillour Division.*—The Subathu plantation is in course of being demarcated by an aloe hedge, of which 4½ miles have been completed, leaving 1 mile to be finished.

CHAPTER II.—SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATION.

1—Surveys.

45. The following statement shows the areas surveyed and still to be surveyed in each Division:—

Divisions.	Area surveyed	Area not surveyed	Total
	Acres	Acres.	Acres.
Hazara	1,51,372	...	1,51,372
Rawalpindi	...	63,320	63,320
Chamba	4,207	1,21,233	1,25,440
Beas	3,182	33,675	36,857
Kulu	...	...	...
Bashahr	...	1,15,200	1,15,200
Jhelum	1,96,900	.	1,96,900
Gujranwala	24,139	25,185	49,324
Lahore	22,938	1,911	24,849
Mooltan	70,356	...	70,356
Montgomery	...	56,169	56,169
Phillour	416	1,189	1,605
Total ...	4,73,510	4,17,882	* 8,91,392

* Fractions of square miles not shown in Form 40.

46. The compilation of separate maps of a convenient scale of each rakh from the Settlement Shujras which only show the chaks or areas taken from each village, was continued, and the whole of the Khanpur rakhs, 30 in number, completed. In the Kaghan and Siran ranges 20 such maps were completed last year, and 8 remaining have now been finished, so that only those of the Dungagalli range remain to form a complete set.

47. *Rawalpindi Division.*—No departmental surveys were undertaken, but the boundary of the Bagham reserve was surveyed by the Revenue Survey Department. The preparation of maps of the Murree and Kahuta proposed protected forests by the Forest Settlement Department, on the scale of 8 inches to a mile, was still in hand.

48. *Chamba Division.*—The Officer in charge Working Plan Division surveyed, with the aid of surveyors lent by the Forest Survey Department, a portion of those forests which will first be worked under the provisions of his working plans. They comprise the Padri, Bohar, Charindi, Rambo, Loha, Phatum, Lanot, Pandarbanni, and Motru forests of the Naila Block.

49. *Beas Division.*—A new survey map of the Karnpur reserved forest was prepared by the Settlement Department.

50. *Kulu Division.*—No surveys were made during the year, but a sketch map was submitted by Mr. Gisborne Smith showing the position of the deodar, kail and birch forests in Lahoul.

51. *Bashashr Division.*—The only maps of forests of this Division are a number of sketch maps, illustrating the progress of demarcation. The employment in this Division of a party of the Imperial Forest Survey Department was sanctioned, and they were about to take the field at the close of the year.

52. *Jhelum Division.*—With the object of testing the reliability of the settlement maps, mentioned in last year's report, the Officer in charge Working Plan Division surveyed the two reserves Garat and Paniala in the Jhelum district, and a map, on the scale of 4 inches to the mile, showing the surrounding villages and boundaries of the reserve and the area burdened with rights and including private property, was compiled from the settlement records for each of the 32 reserves in the Jhelum District.

53. *Gujranwala Division.*—With the exception of the Pabbi forest in the Gujrat district, all reserves in this Division have now been surveyed. The proposed reserves and proposed protected forests have also been surveyed.

The Pabbi forest, together with a few small Belas, will be surveyed during 1885-86.

54. *Lahore Division.*—The only reserves of which no accurate maps are said to exist, are Serai Amanat Khan and Bahoru in the Amritsar district.

One small survey was carried out by the Forest Department in Rakh Jelleki, and it was found that the area of the rakh was correctly demarcated, but as encroachments had been made on land under the District authorities, the matter was referred to the Deputy Commissioner.

An index map of the Lahore District was prepared during the year showing the position and area of all reserved forests, unreserved forests under Forest and District management, Canal rajbahas, railway lines, roads, forests and district bungalows, and all large villages. Several copies of this map were printed off and distributed by the Deputy Commissioner to all tahsils, and each Range officer has also been supplied with a copy of it.

55. *Mooltan Division.*—All reserves in the Mooltan district have been surveyed, and the original plane table sheets or copies of them are in the office. They have consequently been brought on to the Statement as areas surveyed.

56. *Montgomery Division.*—A map on the scale of 4 inches = 1 mile shows the position of all forests in this Division, but as the Divisional Officer is not satisfied with the accuracy of it, the reserves continue to be shown as unsurveyed.

57. The entry of all reserved forests on a small scale map of the Province 32 miles=1 inch, was taken in hand in accordance with letter No. 300 C, dated 12th February 1885, from the Superintendent of Forest Surveys.

With the object of complying with the request made in the last para of Government Resolution on last year's Annual Report, all areas under the control of the Forest Department have been entered on a complete set of atlas sheets of the Province, and this information on reduced scale of 8 miles = one inch, will be separately submitted. Such a map is too bulky to form an Appendix to the Annual Report; and many of the areas could not be conveniently shown on a map on a smaller scale.

2.—Working Plans.

58. The Working Plans Branch was started at the end of the past financial year; *viz.* the 19th March 1884, at first as a separate Division, subsequently as a Branch of the Direction office. The Officer in charge is now entirely relieved of the duty of keeping up an office; his correspondence with Divisional Officers passes through the office of the Conservator, with whom he communicates by means of office-notes, and his expenditure is incorporated in the accounts of the Division in which he happens to be working.

The greater part of the year under report, namely from May to December, was devoted to the collection of data for the preparation of a plan for the management of the leased forests on the upper Ravi river in the Chamba State. These forests, as at present demarcated, consist of one hundred and eighty three separate patches of mixed forest containing deodar scattered over an exceptionally difficult country.

In order to determine the number of trees it is advisable to fell annually; all the deodar over 4′ 6″ in girth in these forests were measured and counted. The number counted amounted to one hundred and sixty-eight thousand. The annual rings showing the growth were counted in four hundred stumps, and all the facts relating to the past history of the forests, such as the number of trees felled since the forests were first leased in 1864, the amount of money received and expended; prices realized from sales of different classes of forest produce, &c. &c., were collected from the records in the Divisional office.

All these facts were recorded, and it now remains to prescribe the areas to be worked in the immediate future, the manner in which the trees are to be felled, and, generally, to work out the details of the future management of the forests. This is now being done.

Two native surveyors were employed in connection with the Working Plans Branch, during the latter part of the year. An area of about 50 square miles containing one block of the forests it is proposed to work, was inter-triangulated by the Working Plan Officer, and topographical maps on the scale of 2 inches to one mile were prepared by the surveyors.

During the cold weather months, April 1884 and February and March 1885, when travelling in the hills was impracticable, the Working Plans Branch was employed in compiling abstracts of the records of rights in the Jhelum Reserves, and a map on the scale of 4 inches to 1 mile, showing the surrounding villages and boundaries of the reserve and the areas burdened with rights and including private property, was compiled from the settlement records for each of the thirty-two reserved areas in the Jhelum district. The Jhelum work was completed by the end of the financial year, and the statements and maps have only to be submitted for verification in accordance with the Government orders to the Settlement Officer, Rawalpindi. Separate statements in English and Vernacular, for each reserve, were prepared describing the boundaries in details, giving the area of Government land burdened with rights, and free of rights, and the area of the private lands, and describing in detail the rights, including roads and paths, &c., allowed in each reserve. These Statements were prepared from the vernacular field registers of the villages from which the reserves were formed, and the vernacular registers of the reserves which had been specially prepared by the Settlement authorities, some fifty or sixty volumes in all.

The area of each field number and the rights (if any) recorded against it were taken out separately from the field registers by the Patwáries and entered in columns according to classes; these, after being checked with the original by the Working Plans Officer, were totalled and the abstracts of rights prepared in English and then translated into the vernacular. Each field number against which a right was recorded, had to be separately marked off in the vernacular map before it was reduced, and this was again compared with the tabular statements. The number of "fields" in each reserve varied from two or three hundred to two thousand each consisting of several parts ("goshas") measured and entered separately.

The total expenditure on this branch up to end of the financial year was as follows :—

No.	Particulars of expenditure.	Amount.			Remarks.
		Rs.	A	P.	
I	*Preparation of Chamba Working Plans.*				
	Salary of Divisional Officer and of his office staff from May to December 1884	4,968	0	0	
	Travelling Allowance of do. do. ...	1,554	3	4	
	Survey of forests, enumeration of trees and miscellaneous charges	1,558	12	10	
	Total ...	8,081	0	2	
II	*Preparation of Jhelum records.*				
	Salary of Divisional Officer and of his office establishment for April 1884, and January to March 1885	2,603	9	0	
	Travelling allowance of do. do. do	834	10	8	*These include Rs. 333-8-2 & Rs. 524-11-6 spent in 1883-84 & in April 1885 respectively.
	Survey of forests, preparation of maps, summary of rights and miscellaneous charges	1,097	2	5	
	Total ...	4,535	6	1*	
	Grand Total ...	12,616	6	3	

59. A working plan was prepared during the year by Mr. McIntire, Assistant Conservator, for the Shahdera-cum-Jugian plantation of the Lahore Division. The submission of this plan with a map of the plantation has apparently been overlooked by the Divisional Officer, who reports its completion, and observes that provision is made for fellings for coppice, with 15—20 selected standards per acre, in a rotation of 15 years. The total area of the plantation is 1,214 acres, of which 126 acres were cut in 1882-83, none during 1883-84, and 162 acres during 1884-85, making a total of 288 acres felled to end of 1884-85, which leaves 926 acres to be cut within the next 11 years, or 85 acres annually.

60. *Hazara Division.*—The only working plan is one for the Khanpur Range forests, in area 31,786 acres. The plan is for the whole range generally, but chiefly for the lower portion or that yielding fuel, in area 26,192 acres. It was prepared in 1878-79, has a duration of 20 years, but with details for only 10 years, 1879 to 1888. The plan aims to give rest to the adjoining rakhs in the Rawalpindi district by drawing a portion of the supply of fuel for that station from the area under its operations, and to improve the fuel rakhs by converting the more or less pure coppice into coppice with standards. It also treats of grass-cutting, communications and artificial cultivation.

The following statement shows the cuttings provided for by the plan and the clearances which have actually taken place, from which it will be observed that the area prescribed to be cleared falls short of that actually cleared by 3,629 acres and the outturn by 1,08,434 maunds :—

	1879.		1880.		1881.		1882.		1883.		1884.		Total to date.	
	Acres.	Maunds.	Acres.	Maunds.	Acres.	Maunds.	Acres.	Maunds.	Acres.	Maunds.	Acres.	Maunds.	Acres.	Maunds.
Cuttings provided for	748	41,000	971	40,000	600	40,000	1,080	40,000	1,064	39,690	1,098	39,500	6,453	2,40,100
Actual Clearances	940	36,756	183	11,428	1,019	*38,000			663	45,482			2,804	1,31,666
Differences With plan	+191	−4,244	−790	−28,572	+419	−2,000	−1,080	−40,000	−401	+5,882	−1,098	−39,500	−3,629	1,08,434

* In 1881 the area was sold by auction and the out-turn is therefore merely estimated, no account having been kept.

The chief reason for the plan not being kept up to lies in the difficulty there is in disposing of the wood, anticipated in paragraphs 39 and 40 of the plan. Had we only more reliable data wood might be sold by the acreage. At present contractors will not look at the wood except on the old permit system.

It is difficult to say whether the cuttings were carried out in the manner indicated,—probably not, as the nature of the growth appears to have changed but little.

No attention has been given to the matter of communications. These are now being improved, about 2 miles having been repaired and made fit for animals during the year, chiefly with a view to render inspection easier, and they will also reduce the difficulty of transport of wood.

The provisions regarding cultivation and reproduction, being somewhat obscure in the descriptive register of blocks and compartments, have also been overlooked. Operations of this nature are now, however, being put in hand, though possibly the exact provisions of the plan, now six years old, will not be adhered to.

61. *Chamba Division.*—In addition to the working plan under preparation for the forests of the upper Ravi, the revision of the plan in existence for Kalatop and a separate plan for the Kainthli forest are being undertaken.

62. *Jhelum Division.*—The compilation in English of a record of rights for all reserves was completed as reported above. When the exclusion of cattle from the areas proposed for closure shall have been sanctioned and carried out, an annual scheme of operations will suffice for many years to come.

63. *Lahore Division.*—As mentioned in the Report for last year, the only working plan is that made by Mr. Ribbentrop for the Changa Manga plantation. Block IV (4,299 acres) is not included in the provisions of this plan.

The fellings were to extend over the whole three blocks,—with an annual cutting of 270 acres in Block I, 180 acres in Block II, and 210 acres in Block III. The distribution of fellings, number of standards, and other provisions were noticed in last year's Report.

This Working Plan was not adhered to. From experiments made in compartment 76 in 1876-77 and compartment 8 in 1879-80, it was proved beyond a doubt that sissu did not coppice well under the shade formed by 40 to 45 standards per acre.

The fellings during 1880-81, 1881-82, 1882-83 were made '*deprochè enprochè*' entirely in Block I. Compartments 1 to 12 were cut through without any standard trees being left, except a few along the road avenues. More recently the provisions of the plan have been complied with, and the fellings during 1883-84 and 1884-85 have been divided over Blocks I and II, with only 10 to 15 selected standard trees left per acre, and with one or two high timbered compartments left between the compartments felled.

The fellings in Changa Manga have not been systematically carried out from year to year, as will be seen from the statement below:—

Areas felled from commencement of cutting.

1880-81		147·00	acres
1881-82	.	275·50	"
1882-83	...	960·00	"
1883-84	. .	165·14	"
1884-85		925	"

average about 494 acres yearly, which, though within the estimated area to be felled annually, has been irregularly cut over.

The present arrangements are to work Block I, II, and sissu growth of Block IV, aggregating 6,946 acres, on a ten-yearly rotation, the fellings to be for coppice with from 10 to 15 standard trees left per acre, and with one or two old compartments left between those felled, as a protection from hot winds, until the coppice is old enough to protect itself, the fellings to be done between the months of October and March each year, and not as heretofore throughout the year.

Of the above area 2,472 acres have been felled up to the end of 1884-85, consequently there are only 4,474 acres left to be felled within the next 5 years, which allows of 895 acres to be cut yearly.

Shahdera-cum-Jugian.—During the year Mr. McIntire, Assistant Conservator, prepared a preliminary working plan for this plantation. A map has been prepared, showing the divisions of the areas to be cut each year, and these lines have been laid down on the ground by means of small trenches and tin plates nailed to trees.

In unreserved forests no fixed projects for management have yet been formed, and the rakhs are being cut merely with regard to the demand for fuel and due provision for grazing requirements.

64. *Mooltan Division.*—The reserves are now being worked for the supply of fuel to the Railway, the regularity of the growth being kept in view, and attention being paid that they are not over-worked. These reserves are worked as coppice forests.

The present working of all coppice consists in cutting out all trees over 2 feet in girth, and all dead or dying trees.

3.—Plans of Operations.

65. In accordance with the arrangement contemplated under para. 62 of last year's Report, the annual plans of operations of the several Divisions with explanations as to how far these plans were worked up to, are given in Appendix.

CHAPTER III.—PROTECTION AND IMPROVEMENT.

1.—Establishment.

66. Mr. A. E. Wild, Deputy Conservator of Forests, officiated as Conservator of Forests till the 5th May 1884, when he was relieved by Mr. B. Ribbentrop on his return from privilege leave.

On the 16th of February 1885, Mr. B. Ribbentrop proceeded to take up the appointment of Inspector General of Forests, and was relieved by Mr. H. C. Hill, Officiating Conservator of Forests.

Colonel C. Batchelor, Deputy Conservator of Forests, retired from the service on the 10th June 1884.

Mr. R. Pinder, Assistant Conservator of Forests, was transferred from Oudh and joined the Punjab in November 1884.

Mr. Watson was appointed as a Sub-Assistant Conservator of Forests, and joined the Punjab in November 1884. He was temporarily transferred to the Central Provinces in February 1885.

Mr. A. L. McIntire, Assistant Conservator of Forests appointed by the Secretary of State for India, joined the Punjab in December 1884.

Babu Ladha Singh was appointed a Probationary Sub-Assistant Conservator of Forests, with effect from the 4th November 1883.

Mr. G. G. Minnikon, Deputy Conservator of Forests, was absent on 3 months privilege leave from the 2nd January 1885.

Mr. J. H. Lace, Assistant Conservator of Forests, proceeded on the 24th September to Biluchistan.

67. Of the Native non-commissioned officers, Duffadar Ahmed Ali Jan was permitted to rejoin his regiment, and Naik Jaymal Singh and Duffadar Sunder Singh are again favorably reported on. Havildar Sadhu Singh maintains his character for aptitude and good work.

68. Forest Ranger Mansukh Rai and Foresters Jai Kishen, Ghulam Mohamed, Thakur Dass and Gokal Dass obtained the Rangers certificates from the Forest School and were promoted to Rangerships. The Forest School was also attended by Foresters Atma Ram, Devi Ditta and Sunder Dass.

Forester Atma Ram failed after a 2 years' course to obtain the Ranger's certificate, but has been permitted by the Director to remain at the School for another year. Devi Ditta and Sunder Dass are undergoing the usual second year's course.

69. Forest Ranger Abdul Rahim, of the Hazara Division, was, in August 1884, arrested by the Police on a charge of abetting one Ganesha Singh, Contractor Public Works Department, Military Works Branch, in dishonest practices. The case was tried at Murree and, after a hearing of some days, dismissed. Ranger Abdul Rahim was transferred to another Division.

70. The sanctioned permanent Establishment is fixed for the Province at—Forest and Depôt Establishment Rs. 7,000, Office Establishment Rs. 2,043, or in all Rs. 9,043 per mensem, and within these totals the distribution is left to the Conservator. The actual amount disbursed on account of permanent Establishments amounted to Rs. 1,04,240 for the year, distributed over the Divisions as follows:—

Divisions			Protective.	Office.
			Rs.	Rs.
Direction	...	...	..	6,811
Hazara	..	...	7,049	1,464
Rawalpindi	...	...	7,806	1,246
Chamba	...	.	8,961	2,568
Beas	...	...	8,884	1,982
Kulu	...	...	2,703	405
Bashahr	....	...	2,475	1,357
Jhelum	..	...	9,868	1,724
Gujranwala	...	...	11,507	1,920
Lahore	...	...	9,664	1,732
Mooltan	...	...	4,695	1,470
Montgomery	...	...	2,584	544
Phillour	...	...	4,379	942
	Total	...	80,575	23,665

71. Temporary Establishments cost Rs. 7,668, distributed as follows:—

Divisions.	Cost.
	Rs.
Rawalpindi	1,063
Chamba	594
Beas	144
Kulu	270
Bashahr	1,118
Jhelum	226
Gujranwala	1,824
Lahore	322
Mooltan	103
Phillour	2,004
Total ...	7,668

2.—Breaches of Forest Rules.

72. In all 1,050 forest offences were disposed of by the courts, and convictions averaged for the Province 75 per cent. Convictions in both the Rawalpindi and Hazara Divisions were unsatisfactorily few, they amounted to 57 and 59 per cent. only of the cases taken to court.

In districts where offences are numerous, and cattle-trespass prevalent, there is a tendency to judge the efficiency of the Protective Establishment by the number of cases instituted or the cattle impounded, rather than by the condition of the forest. This leads to the prosecution of cases on insufficient evidence, which creates a feeling of distrust towards the Department, and ends in a low percentage of convictions. Divisional Officers should recognize that the object aimed at is the efficient protection of the forests in their charge, and that the prevention of offences by means of an understanding with the people is much more creditable than the constant recourse to law for the punishment of offenders.

73. The unsatisfactory state of affairs in the Muzaffargarh District, noted in para. 77 of last year's Annual Report, has been changed. A case was sent up to the Chief Court, which, in its ruling No. 851, dated 23rd January 1885, pointed out that the Penal Code was applicable to offences committed in forests not brought under Act VII of 1878.

74. Exclusive of the Jhelum Division, the figures of which have not been received, 31,089 head of camels, cattle, &c., were impounded; of these 17,692 were caught in the Rawalpindi Division.

75. Under Section 67 of the Forest Act, no less than 831 petty offences, chiefly trespass, were compounded for small sums. The Divisional Officer Rawalpindi has omitted to enter the sum for which he compounded 123 offences. In the Jhelum Division 41 cases were settled out of court for Rs. 260. In the Mooltan Division Rs. 1,022 were received on account of 249 offences, and in the Montgomery Division 417 cases were disposed of in consideration of money payments aggregating Rs. 1,335. The average rate at which offences were compounded was less than Rs. 4.

76. The Deputy Conservator, Lahore Division, reports the successful prosecution of 11 out of a gang of 13 *bhatties* (cattle-lifters) who live alongside of the Changa Manga plantation, and who have for years past given trouble by

habitually pasturing at night large herds of cattle in the plantation. They were prosecuted for illicit grazing and assaulting the Forest Establishment, and 5 were punished with imprisonment and fine, while 6 were fined.

77. The following table is a summary of form No. 52 :—

Divisions.	Pending from 1883-84.	New cases of 1884-85	Total for trial.	Concluded in 1884-85.	Convictions.	Acquittals.	Cases pending at close of 1884-85.	Cases compounded under Section 67 of Act VII of 1878.
Hazara	22	74	96	96	57	39	...	...
Rawalpindi ...	34	200	234	218	123	95	16	123
Chamba	4	31	35	27	21	6	8	...
Beas	2	152	154	152	145	7	2	...
Kulu	5	113	118	100	90	10	18	...
Bashahr	54	47	101	50	27	23	51	...
Jhelum	1	151	152	140	105	35	12	41
Gujránwála ...	6	104	110	104	84	20	6	1
Lahore	...	15	15	15	15	...	...	...
Mooltan	5	44	49	42	31	11	7	249
Montgomery ...	6	120	126	85	74	11	41	417
Phillour	...	23	23	21	17	4	2	...
Total ...	139	1,074	1,213	1,050	789	261	163	831

The number of cases brought to court has increased from 716 in 1881-82, 927 in 1882-83, and 935 in 1883-84 to 1,050 in the year under review. The percentage of convictions obtained has remained fairly constant at 75 per cent.

78. The following statement serves to carry on the comparision of the different kinds of offences committed during the last 3 years :—

Nature of Offences.	Number			Increase over previous year.	Decrease over previous year.
	1882-83.	1883-84.	1884-85.		
1. Injury to forests by fire ...	119	126	76	...	50
2. Unauthorized felling or appropriation of wood or minor produce...	431	437	611	174	...
3. Grazing without permission ...	169	193	192	...	1
4 Other offences .	184	212	195	...	17
Total ...	903	968	1,074	...	...

3.—Forest Fires.

79. The prescribed Form No. 51 affords little or no information in regard to fire protection in the Punjab. With few exceptions, no special measures are taken or required to protect forests from fire, and, consequently, no expenditure beyond nominal sums are incurred. The actual expenses, which amounted during the year to Rs. 1,065, represent chiefly the cost of watchers and temporary assistance rendered to the protective establishment for a short period. The expenditure affected an area of 2,07,370 acres, of which 2,07,314 acres escaped fire. During the previous year Rs. 586 were expended on 47,203 acres, of which 2,440 were burnt over.

The area of reserves which escape fire without any special measures is 1,292 square miles distributed as follows:—

Divisions.	Total area of reserves Square miles.	Area of reserves specially protected. Square miles	Area of reserves not specially protected. Square miles.	Area of reserves which escaped fire without any special measures. Square miles
Hazára	236	38	198	198
Rawalpindi	99	..	99	99
Chamba	196	8	188	188
Beas	59	18	41	41
Bashahr	180	...	180	180
Jhelum	307	...	307	307
Gujránwála	77	..	77	77
Lahore	38	...	38	38
Mooltan	110	4	106	106
Montgomery	87	29	58	58
Phillour	2	2	...	...
Total ...	1,391	99	1,292	1,292

80. The following comparative statement shows that 115 fires occurred in the forests and waste lands under the control of the Forest Department and not specially protected. The area burnt through amounted to 22,055 acres.

Divisions.	No. of fires.		Estimated area over which the fires spread	
	1883-84	1884-85	1883-84	1884-85
Hazára	13	23	3,716	13,827
Rawalpindi—				
Murree Tahsil	17	3	2,618	10
Rawalpindi „	2	...	...	...
Fatteh Jang „	...	2	...	162
Kahuta „	...	5	...	7
Chamba	11	11	2,500	...
Beas—				
Nurpur Range	3	2	180	60
Dera „	37	3	15,378	74
River „	2	2	600	350
Kulu	17	26	848	448
Bashahr	11	13	...	...
Gujranwala	9	2	1,219	20
Lahore	7	5	451	245
Mooltan	13	13	2,307	4,845
Montgomery	...	2	...	7
Phillour	1	3	90	2,000
Total ...	143	115	29,907	22,055

There has been a considerable decrease in the number of fires; and the area burnt over, although extensive fires occurred in the Hazara Division, is much less than in the previous year.

81. *Hazara Division.*—There were nearly twice as many fires, extending over an area almost 4 times in extent as compared with the previous year, and this, too, notwithstanding that the zemindars were warned that Section 29 of the Hazara Forest Regulations would be enforced. Fires commenced in the Kaghan and Siran Ranges on the 15th June 1884, and were of constant occurrence up to the end of that month. In the Khanpur Range fires broke out towards the end of June and continued up to the middle of July. Two fires occurred so early as March. Generally, there is no trace as to the origin of these fires, but the Divisional Officer is of opinion that the fires in the Pakli pine forest are lighted intentionally in view to securing a better crop of grass. Great exertions were, however, made to put a stop to this evil, and the matter was brought

most prominently to the notice of the Deputy Commissioner of Hazara; Tahsildars have in consequence received most stringent orders on the subject. The lands burnt over have been reserved from all user of right-holders for 5 years, and the village communities which had the right of user have been made to pay a share of the cost of the establishment placed over these areas. In two cases of forest fires the village communities were prosecuted by the Forest Officer and convictions obtained in both cases.

82. *Rawalpindi Division.*—10 fires occurred during the year, the area burnt being 179 acres. None of the fires were of importance, 290 trees being scorched and 171 burnt. Convictions were obtained in 8 cases.

83. *Chamba Division.*—11 fires occurred, though none were of much importance as the following statement will show:—

Forest.	Damage	Result of case.
	Cases sent for trial.	
Rupani	Insignificant	Offenders fined Rs 5
Kansar	400 sq ft burnt, but no trees	" " 5
Do.	800 sq ft and 8 young deodars burnt ...	" " 5
Banota	600 sq ft. 26 chil and 8 young deodars burnt	" " 10
Malwad	9 young deodars burnt	" " 20
Phatri	200 sq ft and 1 young deodar burnt	Not convicted
Bir	Insignificant	Offenders fined Rs 10
	Cases not sent for trial.	
Chatri	6 deodars partly burnt by sawyers... ..	Settled departmentally by fining contractor price of trees.
Bakloh (Chalawa)	No trees burnt, about 2 acres grass ...	Not detected.
Malwad	200 young chil, &c., burnt	Do do
	Shahpur Kandi	
Nagdhar ...	Insignificant	Not detected

84. *Beas Division.*—Only 7 forest fires extending over an area of 484 acres are reported, which is satisfactory. In the Hamirpur tahsil in the Dera Range 1 fire occurred extending over one acre, and in the Dera tahsil 23 acres of forest were burnt. The offenders were fined. A fire broke out in a part of the Karnpur bamboo forest extending over about 50 acres, but little damage was done. In the Nurpur tahsil only 2 small fires occurred, extending over an area of about 60 acres; the damage done was trifling. There were two fires in the Bagarian plantation, in the River Range. The first fire occurred in April 1884, and should have been reported in 1883-84. It spread over an area of about 300 acres, doing much damage to the shisham trees. The originator of the fire was not traced. The villagers within whose bounds the fire occurred were prosecuted under the Rules of 1855 and fined. The second fire broke out in March 1885, and spread over an area of 50 acres, doing much damage to the young trees. Orders have been issued to prosecute the villagers in whose bounds the fire occurred, and to stop free grazing, as was stipulated when the concession was made.

85. *Kulu Division.*—26 cases of fire are reported. Three of them were petty cases in which little damage was done, and the parties concerned were warned. In the remaining cases the offenders were prosecuted under the Rules of 1855 and punished.

86. *Bashahr Division.*—The following forests are reported to have been burnt during the year:—

Range	Name of Forest.	Remarks
Neogli Range ...	Chillali and Dhar ...	Pinus longifolia on grass slopes
	Natal ...	Pinus excelsa do.
	Danga Nal ...	Do. do.
	Kakrola ...	Do. oak, &c.
	Purmi Drali ...	Pinus longifolia.
	Jhon ...	Do.
	Kaltoo ...	Do.
	Duchoo ...	Do.
	Bagi Mastighar ...	Pinus excelsa.
Tranda Range ...	Thatch ...	Pinus longifolia.
	Drali ...	Do.
Pandrabis Range ..	Babha ...	150′ × 100′ deodar.
	Krabba ...	40 × 30 deodar.

The only forests of value which fire entered were the Babha and Krabba, and the area burnt over was insignificant. Permission to fire grassy slopes was given on the understanding that a Forest official should be present, and that a line should be cleared along the upper limit of the slope, before the grass below was fired.

87. In the *Jhelum Division* one very trifling case of forest fire occurred, burning the grass over about ¼ of an acre in Rakh Garat.

88. In the *Gujranwala Division* 2 fires are reported, one in Rakh Shahidanwali, extending over about 5 acres, and another in Rakh Bhullowal in the Shahpur district, extending over about 15 acres.

89. In the *Lahore Division* 5 fires, extending over an area of 245 acres, are reported.

90. *Mooltan Division.*—There were no fires in the Mooltan district. In the Muzaffargarh district 9 fires occurred during the year—3 were trifling, and a fourth, though spreading over an area of 200 acres, did but little damage. Of the remaining 5—the two fires in Rakhs Damarwala and Diwan Sahib were the most serious, spreading over 2,000 and 1,600 acres respectively, and destroying, in the former, a lot of young growth. The Police have instituted enquiries, and the Deputy Commissioner has threatened to place punitive posts on the villages in the lands of which these fires occur.

In the Dera Ghazi Khan district 4 fires took place. In two cases the offenders were prosecuted and fined Rs. 50 and 15 respectively; two cases are pending.

In one case that was pending from last year, 19 cattle owners were excluded from grazing cattle in the Rakh in which the fire occurred, and were made to pay the "tirni" fee for the year, amounting to Rs. 650.

91. In the *Montgomery Division* 2 fires occurred,—one was insignificant, in the other, which spread over about 6 acres, the offender was punished with imprisonment for 3 months and Rs. 50 fine.

92. In the *Phillour Division* 3 fires occurred in 1884, in the Kalesar forest, spreading over an area of 2,000 acres. During the season to which this report refers, the forest has been successfully protected.

4.—Grazing and Fencing.

93. The restriction and regulation of grazing throughout the Province have been exhaustively dealt with by Mr. Ribbentrop in a special Memorandum submitted to Government in letter No. 1133, dated 7th December 1883, but as yet no orders have issued in regard to his proposals.

94. During the year, as will be seen from the statement given below, the area entirely closed was slightly increased, and some progress was made in the

formation of grass preserves by closing areas for a portion of the year only. The area exhibited as closed against browzers stands at a lower figure, owing to the exclusion of tracts permanantly or partially closed, and which were included in last year's report.

STATEMENT OF AREAS CLOSED AGAINST GRAZING.

Divisions.	Area Closed.					
	Entirely.		Part of the year.		Against camels, goats and sheep.	
	1883-84.	1884-85.	1883-84.	1884-85.	1883-84.	1884-85.
	S. M.	S M	S. M.	S M	S. M.	S. M.
Hazara	143	152	...	...	...	...
Rawalpindi	77	77	...	...	...	...
Chamba	61	61	...	..	...	...
Beas	53	57	5	6	...	...
Kulu	...	15	...	...	...	...
Bashahr	26	26	.	...	...	...
Jhelum	30	27	.	..	49	53
Gujranwala	19	17	33	45	136	131
Lahore	48	41	9	11	70	67
Mooltan	8	16	31	176	284	37
Montgomery	...	...	..	70	...	25
Phillour	2	...	...	2	...	...
Total ...	467	489	78	310	539	313

For various reasons the progress under this head reported from the Montgomery Division fell very much short of expectations.

At the commencement of the year reserves aggregating 70 square miles were closed, and it was proposed to open them only in December, and then to a limited number of cattle on payment of fees. The spring rains however failing, some of the reserves had to be opened for a period of 3 months, after which they were strictly closed. In September the scarcity of grass was again so severely felt, that the opening of all reserves to cattle only was found to be necessary, and under the orders of the Financial Commissioner, they were thrown open free of charge from the 1st October for two months. Herds of cattle numbering from 30,000 to 50,000 head over-ran the reserves, and at the end of a month they were as bare of grass as the open rakh lands.

The exclusion of camels, sheep and goats from even a fractional part of the unreserved forests and wastes in this District is regarded by the Deputy Commissioner as injurious to the interests of the people; and so long as this view is upheld, any improvement in the forest growth is impossible, and the realisation of legitimate revenue by the sale of firewood could only result in denudation.

95. *Hazara Division.*—The area actually closed remained the same as in the previous year, but it would appear to have been erroneously stated at 143 square miles. The Divisional Officer has carefully revised the figures, and now enters the area at 97,589 acres or 152 square miles, made up as follows:—

Range.	Total area	*Area closed to grazing entirely.*		*Area open to grazing.*		
		Area	Per cent	Settlement.	Forest Dept.	Total.
Dunga-galli	41,023	39,418	96 %	1,605	...	1,605
Kaghan	57,487	21,470	37 %	2,076	33,941	36,017
Siran	20,986	5,661	27 %	5,995	9,330	15,325
Khanpur	31,786	31,040	98 %	746	...	746
Total ...	1,51,282	97,589	64 %	10,422	43,271	53,693

96. *Rawalpindi Division.*—Of reserves aggregating 99 square miles 22 square miles are burdened with grazing rights of a somewhat undefined nature, and 77 square miles are closed against grazing. Considering this area amounts to less than 10 per cent of the area at the disposal of Government, it is by no means satisfactory to find that 17,692 head of cattle were caught trespassing, and that convictions were only obtained in 57 per cent of the cases taken to court.

Under a mis-apprehension the Commissariat Department sold the right of grazing for 3 months in a part of the Margalla Reserve, and when the Department interfered and refused to allow animals to enter, the purchasers of the permit gave some trouble, and refused for some time to accept a refund of the purchase money.

At the close of the year orders were received regarding the rakhs which have been assigned to the Military Department in the Rawalpindi district. The Government of India have decided that it would be unadvisable to reduce the area allotted for the supply of grass to the Native Cavalry in the Rawalpindi district, but, with regard to the management of the area so allotted, the Military Department would be moved to draw up general rules in concert with the District and Forest Officers.

97. *Chamba Division.*—No additions were made to the area closed against grazing. The fences at Bakloh and Kalatop were repaired at a cost of Rs. 16 and Rs. 105 respectively.

98. *Beas Division.*—The reserves in the Kangra and Hoshiarpur tahsils continued to be closed, but subject to the admission of right-holders as recorded in last year's report. Buffaloes grazed as usual in the unreserved forests, the Gujars paying dues to the Zemindars. Sheep and goats, the property of Chamba "Gaddies," to the number of 1,28,320, were pastured during the winter against fees amounting to Rs. 2,205.

The Bagarian and Mallanwal plantations were opened free to villagers whose fields were damaged by pigs, so long as no fire occurred.

The Gagriwal rakh was grazed over against payment.

The areas closed were distributed as follows :—

	Entirely.	*Part of year.*
Dera Range	41	6
Nurpur „	16	0
Total	57	6

The boundary of the Bindraban reserve next the main road was fenced, and the area sown with kikar seed in Gagriwal was enclosed.

99. *Kulu Division.*—The area closed against grazing amounted to 15 square miles, 2 square miles of which are effected by the cultural operations either done or about to be begun.

The following fencing exclusive of repairs was done at a cost of Rs. 105 :—

	Feet.
Wire fencing	1,046
Wall	885
Thorn and brushwood	750
Sowings of Prinsepia utilis	7,850

100. *Bashahr Division.*—The area closed remained unaltered. Fences were repaired in the Tranda and Chini Ranges, but seem to have been neglected in the Kilba Range.

101. *Jhelum Division.*—During the year there is a decrease of 3 square miles in the area entirely closed, and an increase of 4 miles in the area closed against camels, sheep and goats. No fencing was done.

102. *Gujranwala Division.*—The area entirely closed against grazing has decreased by 2 square miles during the year, while the areas open for part of the year only have been increased by 12 square miles.

In the Gujranwala District of the areas under the management of the Forest Department 60 per cent. are still open to grazing of all kinds, and in the Gujrat District 66 per cent. to cattle, though camels and goats were entirely excluded from the areas under the Forest Department.

In the Shahpur District, out of a total area of 1,42,920 acres, under the Forest Department, 5 acres have been closed entirely and 9,327 acres are closed against camel and goat grazing, the remaining area being entirely open to grazing.

In the Jhang District the whole area under the Forest Department is entirely open to grazing and in the Sialkot district, out of a total area of 105 acres, 13 are completely closed to grazing, while 92 acres are open to cattle grazing, camels and goats being excluded from the whole area. 45 square miles of partially closed areas were managed departmentally, the remaining open area being sold by public auction in accordance with Financial Commissioner's Book Circular No. XV of 1879.

Felling operations having taken place in Rakh Bhikolohari and Bela Gillan, the areas cut over were fenced in by a hedge to prevent damage being done by cattle which graze on the unfelled portion. Existing fences were kept in repair.

103. *Lahore Division.*—The area entirely closed has been decreased by 7 square miles, that closed against camels, goats and sheep by 3 miles, and the area partially closed increased by 2 square miles. Rakh Gandian, 8 square miles, formerly under the control of Mahant Dhian Dass, and entirely closed to grazing as far as the Forest Department was concerned, was, owing to the Mahant's death, taken over by the Forest Department and thrown open to grazing. Portions of the Serai Amanat Khan, and Nág reserves in the Amritsar District, aggregating 737 acres, and 162 acres of the Jugian reserve in the Lahore district, which were felled during the year, were entirely closed against grazing.

All rakhs cut during 1883-84 and 1884-85 were entirely closed against camels and goats; cows and buffaloes were admitted.

In paras. 94 to 95 of last year's report, the difficulties under which the inhabitants of the Southern Bar districts are situated as regard their livelihood and their dependence on their cattle for obtaining it, is fully explained. To obviate this, certain areas in the Lahore District were closed against grazing from April to September, and were thrown open again when there was a scarcity of fodder in the rakhs. By this means the grazing was regulated and the revenue rose from Rs. 36,343 in 1883-84 to Rs. 10,655 in 1884-85.

The grazing continued to be managed as previously reported. The cash advance payment system was still further insisted upon, the consequence being that there were no outstandings during the year. The revenue per acre open was much the same as in the previous year. It amounted in all to Rs. 38,685, and the following animals were admitted to grazing :—

Buffaloes		12,194
Camels		1,840
Cows	...	29,833
Sheep and goats		40,799
Donkeys, ponies &c.		227
Total		84,893

Besides the above 38,269 head of young cattle grazed free. This total exceeds by over 3,565 head the number grazed in 1883-84. The increase in the number of cattle is partly due to the arrival of Gujars from other districts to graze their cattle in the sailaba plantations and in the rakhs situated along the Dhig and Bhag Batcha Nalas, where there is always water, shade and good grass.

The cattle in the last named areas were far in excess of what the forest was able to pasture; a large percentage, in consequence, died from starvation and disease, and it will probably be necessary to burn the remaining clumps of coarse grass to remove the seeds of disease.

It is reported that 10,085 cattle from other districts came to graze in the Lahore district, besides 3,580 young cattle that grazed free.

104. *Mooltan Division.*—All areas were closed to camels with the exception of 41 square miles of unreserved forest in the Mooltan District. Of 123 square miles closed to camels in the Mooltan district, 110 square miles are reserved and 13 square miles unreserved forest.

In the Serai Sidhu Range all the reserves, with the exception of Dangra, compartment 1; Vinoi, compartments 1 and 5; Bura Kotla, compartments 11 to 20; Pakka Haji Majid, compartments 1 to 6, were open to grazing for the months of September and October.

In the Mailsi Range the following reserves were open to grazing :—

Chak Kaora	for	1	month.
Tajwana and Sharaf	,,	4	months.
Sahoki	,,	6	,,

In the Lodran Range the following reserves were open to grazing :—

Khanwah	for	1	month.
Lodran	,,	2	months.

Reserves Nouraja Buta, Kotwalak and Jelalpur were open for the whole year, and were managed on the "amáni" system.

The grazing in the unreserved Rakhs was disposed of by the Deputy Commissioner, who credits this Department with a proportionate share of the total grazing revenue of the district.

In the Muzaffargarh district the forests were all closed except for 3 or 4 months in the year.

In the areas under the control of the Forest Department in the Dera Ghazi Khan district, those in the Dera Ghazi Khan Range were closed, and one rakh in the Rajanpur Range, though leased out, was closed owing to its being fired.

The grazing in the other Rakhs was disposed of by the Deputy Commissioner by auction, and the grazing revenue credited to the Forest Department.

The fencing round compartments 16 to 20 of the Bura Kotla reserve was repaired at a cost of Rs. 20, and the portion of the Jelalpur reserve that was burnt was fenced in, the cost being met partly by the Forest Department and partly by owners of cattle grazing in the reserve.

105. *Montgomery Division.*—In the Montgomery district 70 square miles of reserved forests were closed for part of the year and 25 square miles of unreserved forests were closed against camels, goats and sheep. This latter area was, however, only closed against browsing animals from April to September, as owing to representations made by the Deputy Commissioner the area had to be thrown open.

106. In the *Phillour Division* only the reserved plantations were closed. Sanatha was sown along some 20,000 feet of boundary to the Sabathu plantation, and 5,679 feet were planted with aloe.

5.—Natural Reproduction.

107. In compliance with the observations contained in para 4 of Government Resolution on the Annual Report for 1883-84, this subject is reported on at some length.

Alpine forests.

108. With reference to paras 109-112 of last year's report, it may be permissible to offer a few remarks with special reference to the forests in the higher hills. However much may be said in favor of re-stocking by artificial means, the fact must not be overlooked that up to the end of 1884-85 plantations and cultural operations covered, in the hill Divisions of Hazara, Chamba, Kulu and Bashahr, a total area of only 1,341 acres. This area too is subject to revision and reduction. The area treated during the year under review was

456 acres. Operations can unquestionably be extended, but so far, experience points to narrow limits. In 1882-83 Hazara added 24 acres, Chamba *nil*, Kulu 78, and Bashahr 12 acres to the previously stocked areas; in 1883-84 Hazara shows 2 acres, Chamba 2, Bashahr 28 (Kulu figures are incorrect); during the past year Hazara stocked *nil*, Chamba 6 acres, Kulu 52, Bashahr 50.

The acreage thus taken from each Division does not represent work done in any single forest, but operations scattered over numerous separate forests. Theoretically, if 5 acres can be planted successfully, so can 5,000; but practically the feasibility of stocking annually in any particular forest for a successive number of years 100 acres or even 50 acres has still to be shown.

Fellings, even where most concentrated, extend over considerable areas, for instance, the Padri and Bohar forests in Chamba, from which it is calculated the marketable timber will be worked out in 3 years, comprises an area of 2 square miles; consequently it may be urged that the task of dealing artificially on a sufficiently large scale with the considerable areas calling for reproductive measures is at present beyond our powers. Under the circumstances it is an obvious duty to carefully study the conditions favorable to natural reproduction, so as to apply them by simple and inexpensive measures, and thereby obtain a more or less complete crop of naturally grown seedlings. The filling up of blanks, planting of denuded hill sides, and introduction of deodar into such forests as only contain a limited proportion of the species—works which must go hand in hand with even the most successful natural re-production—will, as far as our knowledge goes, offer ample scope for such cultivation as can be undertaken.

The past year promises to be a very marked one as far as Deodar forests are concerned, for regular rain throughout May and June enabled the numerous plants resulting from an abundant seedling to survive the hot weather. The oldest inhabitant fails to remember such a season for rain, and this following a prolific seed year can scarcely fail to result in an exceptional crop of young deodars. It is considered that self-sown seedlings die as a rule from the drought and heat of May and June.

109. In the Hazara Division, natural reproduction appears to thrive throughout the Division, but chiefly in the higher hill ranges of Kaghan and Dunga-galli, where the seedlings find a more congenial soil, while the intense heat and absence of moisture and humus kills thousands of young plants in the Khanpur Range.

In all the chil forests of the Pakli plain thousands of young seedlings germinate yearly, but are destroyed by fire. In parts of Rakh Batrasi, one of these forests, there is said to be an excellent growth of seedlings which germinated during June and July, which, if not destroyed by fire, should turn out well. In all these forests there is said to be a marked want of age classes, attributed to the ravages of fire. All the existing young growth of 2 and 3 years old that has escaped being killed, shows the damaging effects of fire in their small height and thick stem.

From the upper forests of Kaghan good deodar reproduction is reported, but, in Dunga-galli, the thick covering of undergrowth seems to prevent the falling seed from reaching the ground. Open spots recently broken up may be seen thickly covered with silver fir, there being also a very fair growth of blue pine and deciduous trees. The year was a bad one for the collection of chil seed, but blue pine was plentiful.

110. *Chamba Division.*—In Kalatop and Kainthli forests experiments to aid natural reproduction have been made, consisting of terracing and working up the soil for a considerable distance round seed-bearing deodars. Careful notes have been made of the experiments, and results will be recorded next year. In compartments 1, 2, 3, 6, 7, 8, 9, 10 of the Kalatop forest, which are all situated on the west side and therefore a good deal exposed, the natural reproduction is reported to be very satisfactory, but in the upper Ravi forests, several of which were examined during the year, in only one forest, Kundi, was natural reproduction observed to be good.

The fence was kept up round the closed portion of the Kajiar forest and young plants have sprung up in great numbers; oaks and large deodars are gradually being removed.

111. *Kulu Division.*—The natural reproduction of deodar in all forests that have been cut is very good, particularly in those which have been closed against grazing. In the closed forests of Bindraban, Kailiban and Khobas in Waziri Rupi, the reproduction of deodar is reported as excellent, but in the open deodar forests the seedlings are all said to be of the present year's growth. In Kulu proper and Seoraj the reproduction is reported to be exceptionally good, both as regards the present and former year's seedlings both in closed and open forests. In Dungri forest as well as in the Blajdhar, Latura and Salano forests in inner Seoraj, the natural reproduction of deodar is said to be perfect, and there is no need for any further artificial stocking.

112. *Bashahr Division.*—In the forests of Wadung, Ralli Mehbar, Barung, Tanglang, Statempi and Kumuri of the Kailas Range, natural reproduction is reported to be very fair, notably in the Ralli forest which has been worked but little. Some 10 years ago an avalanche of snow did great damage in this forest, but, in the blanks made, a dense crop of saplings has grown up under the old forest.

In the moister forests of the Kilba and Tranda Ranges the reproduction of deodar is said to be luxuriant, particularly in the higher forests. It is mixed largely with blue pine, and it was considered necessary to thin out the blue pine from the forests of Tranda, Soongri, Panwi and Kum Kumi. In the forests to the south west of Serahan and in the Neogli Range, deodar is scarce, and the Divisional Officer suggests that some forests be taken up here with a view of converting them into pure or mixed deodar forests. Reproduction was observed to be good near the Mushnoo village on the Munglad, Derkali on the Neogli, the slopes above the Keran village on the Bhera, and a few places on the Mushodagad.

In the Pundrabis forests the natural reproduction of deodar is generally good. In the Chini Range, with its small rainfall and with few exceptions dry soils, seedlings are rare.

Forests of the lower hills.

113. There is little or nothing to add to the remarks made in the report for the previous year. Where fires can be put a stop to, chil (pinus longifolia) reproduces itself with facility, and where grazing can be also restricted, oak in the higher, phulai and other hard woods in the lower parts, spring up at once.

Marked improvement due to immunity from fires is reported in the chil forests of Murree and Kahuta, Shahpur Kandi, Hamirpur, Dera and Hoshiarpur; but of the leafy species, the almost useless sanatha, which is only eaten by goats, alone springs up satisfactorily. In the reserves of the Rawalpindi District, the soil is no doubt being gradually covered by the growth, and seedlings are to be found, but the marks of trespass are almost everywhere visible, and the number of cattle impounded alone shows the difficulties natural reproduction has to struggle against. The exclusion of grazing from 2 fenced-in plots in the Bakloh forests of Chamba is reported to have resulted in a crop of seedlings.

Hilly Rakhs.

114. The rakhs in the Jhelum Salt Range were fully disposed of in last year's Report. Time and complete protection are required for the improvement of these hills. A number of the naturally grown sissu and phulai seedlings noticed last year in the ravines in the Pabbi reserve, have succeeded admirably.

Bamboos sprang up vigorously in the forests of the Kangra district during the year. Fires unfortunately traversed two-thirds of the Kalesar forest.

Bar Rakhs.

115. *Gujranwala Division.*—The naturally produced jhand seedlings noticed in Rakh Kingranwali last year, have maintained themselves, but no further reproduction was observed in the Gujranwala bar rakhs.

The kikar seedlings in Rakh Kikranwali, mentioned in last year's report, have made satisfactory progress, and fresh seedlings have appeared during the year, but those in Rakh Chichra have disappeared. The shisham seedlings in Rakh Chichra, though they made but little progress, are still alive, and the area containing them has been fenced in.

The jhand coppice in Rakh Tibbi Tarar which was also felled once in 1883-84, is now 3 to 4 feet high and about 3 inches thick at the base. There are no root suckers, and many of the older stumps failed to throw out any shoots. The malla and karil in the rakh, which were cut at the same time, have done much better.

In Rakhs Behlolpur and Gillan, which were felled over during 1884-85, the coppice promises to be quite as successful as in the Belas mentioned above.

In the Lahore Division, 2 plots, closed in Rakh Jalleki and Rakh compartment of Changa Manga, show a plentiful growth of grass, and some improvement in the existing tree growth; no young seedlings have sprung up. In Kot Lakhpat a large number of sissu and mulberry seedlings have sprung up within the fenced plot. The rakhs cut over in 1883-84, and from which camels and goats have been excluded, have coppiced freely notwithstanding the admission of cows and buffaloes. The jhand and karil coppice is from 1 to 3 feet high. Ber has also coppiced well. The rakhs cut during the past year are also coppicing vigorously.

Mooltan Division.—The coppice in compartments 18, 19, 20 in Bura Kotla Reserve, now 3 to 4 years old, is looking well; the farash grows quicker and stronger than the jhand, the latter has not, however, now the stunted appearance it usually has, and gives hope of forming healthy trees. In Reserve Tajwana, Mailsi Range, young seedlings of kikar and jhand are plentiful to some distance from the banks of a nala that gets filled from the overflow of the Sutlej. In the Muzaffargarh District, in all the forests along the banks of the Indus, natural reproduction is said to be very good, chiefly poplar. Shisham seedlings come up in great numbers, but are destroyed by the annual floods.

In the *Montgomery Division* reproduction is reported to be poor, owing to scanty rain-fall and admission of cattle into most of the forests. An area of 10 acres was selected for experimental cultivation and fenced in, grazing being strictly prohibited. During October, however, cattle effected an entry.

Phillour Division.—The coppice in blocks I and II of the Phillour plantation has made great strides, but being from high stools it is easily damaged by wind. In block III alternate lines of stools were cut flush with the ground, 1,378 stools in all, but have not made much progress.

Sailaba and Belas.

116. It is added from the Lahore Division that kikar seedlings have come up in the Jhoke plantation. The Belas Charki, Jukalian and Mushtrika in the Gujranwala Division, cut over in 1883-84, are now completely stocked with coppice shoots of sissu 5 to 10 feet in height, and numerous suckers.

In Jugian 89 acres were stubbed and 37 acres cut flush with the ground in the autumn of 1882. In 9 acres of the latter 15 to 20 standards were left per acre, the coppice and suckers of both sissu and mulberry are vigorous. During 1883-84 no cuttings were made, but during 1884-85, 162 acres were cut flush with the ground, leaving from 15 to 20 selected standard trees per acre. The fellings took place between July 1884 and February 1885. The coppice, which started during the rains in the portion first cut, is very small. Fellings of sissu for coppice should be made only from October to March.

Notes with reference to natural reproduction in irrigated plantations only go to confirm what has already been recorded.

6.—Artificial reproduction.

Cultural operations in the higher hills.

117. Considerable progress has been made in the formation of nurseries, and in all Divisions except Hazara, a good stock of young deodar is now available. In Kulu plants in nurseries seem to require no special protection from sun or hail; and there is every prospect of sowings in patches answering as well as the more expensive plantations. As far as experience goes sowings of deodar have not succeeded in Chamba, and, where plants in nurseries are killed by hail or burnt up during the hot months, there is but little chance of sowings in the open giving any results. Cultural operations extended over 108 acres of the forests of the upper hills, and an addition of 3 acres was made to the Manali forest garden.

As already noted under the heading of natural reproduction, cultivation must be carried on on a much larger scale; or, which seems more practicable, must be combined with measures which will foster natural reproduction. It has still to be recognized that the establishment of a few well stocked plots of young deodar, of only a few acres each, go but a small way towards the maintenance and improvement of forests square miles in extent; and much money has been wasted, and is still being wasted, by officers sowing and planting over and over again within a limited space, a plot that, if they only knew it, was more than amply stocked years ago. Examples are to be found in the Dungri and Jibi forests of Kulu. In the latter deodar plants, thanks to sowings and plantings year after year over the same ground, are as thick as blades of grass in a meadow; and the Dungri forest, in spite of its completeness, which I believe was admitted 10 years ago, still during the past year furnished some spots for broadcast sowings and useless expenditure.

118. *Hazara Division.*—The operations of the year comprise the sowing of 5 acres of nurseries, chiefly with deodar seed. On 3 acres the operations proved a complete failure, owing, it is said, to the seed being bad, but 2 acres, sown in autumn, are reported to be progressing favorably.

Eight acres have been struck off the list of plantations during the year, as it was found that 6 acres of the area sown in 1882 had been completely destroyed by moles and porcupines, while the box seed sown in ½ an acre of Rakh Garamthan and the seed sown in Rakh Chumbi (1½ acre) did not germinate. Of the remaining areas shown as plantations, Makhunial is said to be the only one that is progressing favorably.

A few rupees were expended on deodar sowings in the Rawalpindi Division, but resulted in failure.

119. *Chamba Division.—Kalatop.* 10,374 deodar and 1,240 walnut plants were transplanted from nurseries in July in lines 5′ apart, over an area of about 7 acres, at a cost of Rs. 86. When inspected in November they were found to be progressing satisfactorily. 3 new nurseries were formed during the year in compartments 3, 14 and 27, covering an area of 8,012 square feet and making in all 16 nurseries, covering an area of 79,162 square feet. These nurseries are capable of holding 2½ lacs of seedlings, and as they are well distributed, there will probably be no necessity to make any more for the present. The nursery formed for the supply of Dalhousie is carefully kept up and was enlarged during the year. 280 deodar plants were sold during the year to residents of Dalhousie. Owing to the scarcity of seed in 1883 the stock of plants in nurseries is still very low; there were only about 15,000 remaining in 1883, and of the sowings in that year only some 20,000 survived the hot weather, so that in November 1884 the stock consisted of about 25,000 deodar plants, 10,000 having been transplanted as stated above. As an instance of the difficulties in rearing nursery plants, it may be mentioned that of 70,000 seedlings in nurseries in April 1884, fully 50,000 died during the hot months. The surviving plants of deodar sowings *in situ* of 1882 are still alive, but, as success of such sowings is by no means certain in Chamba, an experiment only was made in selected places of sowing lines

of seeds in small beds worked up to a depth of 18 inches. This will be carefully watched, as it is just possible that former sowings failed owing to roots not being able to penetrate to a sufficient depth before the hot weather set in. A small beginning was made in compartment 1 with oak sowings, as this compartment is unsuited to deodar, being too exposed.

Kainthli forest.—Three new nurseries were made during the year, covering an area of 20,840 square feet, making in all 5 nurseries for deodar, containing 60,840 square feet. Experimental sowings of deodar were made here also as in Kalatop, and the results will be carefully watched. Nothing further will be done in the Bassu plantation except to fence it and keep cattle out. 371 deodar plants remaining in the nurseries were put out in forests.

Majour.—During 1885, the few remaining plants, about 1,100, will be put out; the area fenced in and work stopped.

Khani.—Nothing was done during the year except to protect the nurseries and the surviving plants,—about 3,500.

Padri and Bohar.—All nurseries were kept in order and plants looked after. At the end of the year there were only 17,000 plants alive, a large number being destroyed by hail.

Chatri.—The two nurseries were fenced and protected during the year and resown in November.

Pangi Range.—Nurseries will be started in the various forests, and orders were issued in September to the Forest Ranger to begin the work. Cultural operations have hitherto been shown as having cost Rs. 3,720 in this Range. The Divisional Officer now reports that 22 acres have been stocked, and that this area is fairly debitable with Rs. 1,919. The difference of Rs. 1,801, representing the cost of old nurseries of which there is no longer any trace, has been transferred to failures. Form 50 has been modified accordingly.

120. *Kulu Division.*—Form No. 50 for 1883-84 closed with a balance of 1,238 acres brought under cultural operations. On inspection by the Conservator it was noticed, that this area represented, not the extent of plantations and sowings only, but the entire tracts of forests closed for improvement by cultivation. Large proportions of some tracts were at the time of closing fully stocked by trees of different ages, and consequently were not operated upon, and should not have been brought on Form 50. This was pointed out and a corrected form called for. I regret, however, that in spite of several references to Mr. Gisborne Smith, who has so successfully carried out the planting works in Kulu, only a partially corrected statement is forthcoming. This allows of the area being reduced to 590 acres, but no less than 18 of the different plots still stand at the area closed. The operations of the year, when falling within such areas, could not be carried on into the closing balance, and consequently, although 52 acres were treated, the area is only shown as increased by 32 acres. The doubtful areas have been marked * * in Form 50 for correction next year.

It is more to be regretted that a complete account from the beginning cannot be given, as the results are most creditable. The operations of the year covered:—

25 acres	planted.
27 „	sown.
2,08,114 .	square feet nurseries.

The total cost was Rs. 972, as follows:—

	Rs.
Planting	162
Sowings (including nurseries)	524
Clearing brushwood &c.	192
Maintenance of old plantations	94

or for the area disposed of Rs. 16-14-0 per acre.

The work of the year is summarized as follows :—

Range.	Block.	Number of seedlings transplanted.	Number of nurseries made.	Deodar seed sown and distributed.	Nature of work.
				Mds. Srs.	
Kulu	Kulu (a) .	51,445	27	39 8 deodar	Filling areas incomplete last year and re-stocking nurseries
	Rupi ..	1,862	8	7 14 „	
Seoraj	Inner Seoraj (b)	3,830	11	7 3 „	
	Outer „ ...	...	1	1 0 „	
Lahoul	..	...	(c) 3	0 18 „	
Distributed ...	...	...	...	4 22 „	
Total ...	...	57,137	50	59 25 „	

(a) A nursery was formed at Samsi and sown with 20 seers sissu seed
(b) Do. do. Pandrabis do 36 box do.
(c) These nurseries also contained devidear, kail, rai and tos

During the year 59 maunds 25 seers of deodor seed was collected, some of which was sent to the Deputy Commissioner Kangra and the rest used as shown above. Two maunds of the seed of *Prinsepia utilis* was sown round the fences at Manali in the Kulu Block to form a quick-set hedge, and nurseries of oak, kail and rai were formed at the site of the new Tahsil at Banjar (Inner Seoraj Block) to afforest the bare hill side above it.

An area of 14 acres was added to the forests closed for cultural operations, so that at the end of the year 1,246 acres of forest were in course of improvement by artificial means.

121. *Bashahr Division.*—During the year attention was given to the formation of nurseries for deodar, pine, box and pencil cedar. Sowing deodar in patches was also carried out. The following statement shows the work done during the year :—

I.—Areas sown and planted.

Range.	Locality.	Description of work.	Area.	Remarks.
			Acres.	
Chini ...	Runang . ..	Sowing in patches	10	Seed germinated thickly.
Kilba ...	Kumkumi	Do. do.	20	
Tranda ...	Panwi	Do do. ..	7	
„ .	Nachar East ...	Do do.	12	
„ ...	Gathrang	Do. do.	¼	
Kilba ...	Yani	Plants 8—9 inches high were removed and planted out in forests.	1	

The deodar seed is said to have germinated.

II.—Nurseries.

Range.	Locality.	Description of work.	Poles	Remarks.
Tranda ...	Panwi ...	Deodar nursery	8½	
„ ...	Nachar East ...	Do. do.	23	
„ ...	„ West ...	Do. do.	9	
„ ...	Gathrang ...	Do. do.	12	
„ ...	Tranda ...	Do. do.	8	
„ ..	Gathrang ...	Blue pine	8	
Chini ...	Yani ...	Pencil Cedar	8	
„ ..	Runang ...	Deodar	14½	
Kilba ...	Tonden ...	Do.	5	
„ ...	Ramni ..	Do	6	
„ ...	Jani ...	Do.	4½	
„ .	Kumkumi ...	Do.	17½	
„ ...	1 Plot ...	Spanish chestnut, ...	3	
Neogli ...	Darkali ...	Box	...	

Cultural operations in the Lower Hills.

122. *Rawalpindi Division.*—In this Division cultural operations seem to have not gone beyond the experimental stage. The areas operated upon, omitted previously from Form 50, have been inserted. During the year one acre was treated on the trench-and-ridge system; and it has resulted in a number of phulai seedlings establishing themselves. In the Khairi Murat reserve 12 acres were sown with phulai in pits and plough lines. The seed germinated and with the constant rain during the hot season the operations will no doubt be successful. Deodar and chir sowings in the Murri tahsil resulted in failure; phulai sowings, in plots of old cultivation taken up in the proposed Chilla Chara reserve, were successful over 7 acres.

123. *Beas Division.—Dera Range.* 84 acres extending over 19 forests in the Hamirpur tahsil, and which had been burnt over in 1883, were sown with chil seed, and the sowings are reported to be doing well. The sowings of former years are also said to be doing well. Bamboo cultivation in the Samlian and Bakara reserves turned out a failure.

Nurpur Range. In the Tatal reserve 6 maunds and 24 seers of chil seed were sown partly in patches and partly broadcast over an area of 25 acres, at a cost of Rs. 14. The seedlings are reported to be doing well. 2,052 bamboo roots were planted out in the Dhamtal reserve at a cost of Rs. 25 with partial success.

River Range. In Rakh Gagriwal kikar seed was sown in lines about 10 feet apart in about 3 acres of land, but did not succeed well.

124. *Jhelum Division.*—In the Bela Pir Ghaib plantation 13 acres of blank were re-stocked with shisham seed sown partly in ridges and partly in lines. The result was fairly successful, except in a plot of 2½ acres, where heavy floods destroyed the plants. In addition, 2 acres of fresh land were operated on with shisham seed with the object of planting out the seedlings; here too 1 acre suffered from floods. Of 3,000 willow cuttings put down on the bank of a water-course, about ⅔rds have established themselves. The little plantation at Ban Faqir-ulla in Rakh Tilla was re-stocked in blank places, and is said to be getting on well. The shisham seedlings formerly planted out have been supplemented with sowings of phulai and kikar with fair success. A small nursery, of about 2 acres, was formed in Rakh Garat and sown with shisham, phulai and kikar, but failed owing to drought.

In the Gandhala reserve 16,820 shisham seedlings, 2 and 3 years old, have been planted out, at intervals of 4 feet, with the most complete success. The seedlings were taken up from the nursery with balls of earth round the roots, and were watered for a few weeks afterwards. The cost of the planting work amounted to Rs. 750.

A plot of 6 acres was carefully worked up with hoes and sown with shisham, phulai, olive, tallow, box, carob and pine in separate beds. Box and olive failed entirely, and only about 25 per cent. of the shisham seed germinated. The phulai, tallow and carob germinated freely, and the seedlings are flourishing, but nearly the whole of the pine seed was carried off by birds and mice. About 500 pine seedlings were planted out, and are said to be thriving. The total area operated on in Rakh Gandhala is 10 acres, and Rs. 1,250 were expended.

125. *Gujranwala Division.*—In the Gujrat District the only cultural operations of any extent were those in the Pabbi reboisement area, during the months of July, August and September. A fresh area of 95 acres in the basin of the Dhokanwali Kas adjoining the area sown in 1883, was taken in hand, and after this was completed, the repairing of broken ridges and resowing of blanks in the area sown in 1882-83 was carried out. Minor works, consisting chiefly of transplanting and strengthening the work of 1883, where breaches in the bunds and trenches showed weakness, were carried out in the spring. The system employed was that of last year, namely trenching in contour lines. The principal kinds of seed sown were phulai, kikar, jand, tali and sanátha, the last being sown broadcast. Prosopis giandulosa, chichra, chil, the Mysore thorn, drek, lahura and deodar were tried; 5 maunds of bér seed were also dibbled in on ridges.

Over 1,000 transplants of kinds, chiefly tali, carob, tallow and drek, were put out behind bunds in the ravine behind the Forest house and in the Sar Begum Bagh. No willow cuttings were tried, as the ones put out last year all died. An experiment is being made with the object of damming up the Sar Begam branch of the Dhokanwah Kas, and by erecting a series of bunds, creating, as it were, a succession of tanks. These will not only check erosion, but, by retaining the moisture, will help us in introducing some fast growing species. The result can only be fully tested after the rains. The sowings of 1881-82 and of 1882-83 have maintained themselves, though a few kikar and shisham were killed by frost. The sowings of 1883-84 have not been so successful, parts here and there having failed; these were resown in November 1884. The sowings of the year under report are an unqualified success; the seed germinated profusely and the plants are making very good progress. Prosopis Glandulosa seed was sown both in pod and cleaned, the latter germinated more freely and quickly than the former.

The lahura seed sown in 1883, as well as that sown during the year, has got on well, and the bér promises to form a useful admixture at Pabbi. The following is a summary of the work done and expenditure incurred:—

	Rs.
Digging and sowing 2,00,071 running feet of trench and ridge	354
Repairing and re-sowing trench and ridge in work of previous year	91
Collection of seed	67
Transplanting work	33
Bunds	154
Establishment	243
Miscellaneous	109
Total	1,051

126. *Phillour Division.*—The area of 143 acres at Sabathu was carefully gone over and all blanks repaired. New seed-beds, over an area of 10 acres, were also made in Blocks 13 and 11, and, with the exception of parts of blocks 13, 14 and 16, this area may now be considered as stocked. 20 acres of the new extension of last year were thoroughly repaired, and a new extension of 50 acres on the west side was taken in hand. After inspection paths were made the area was divided into seed-beds 10′ apart, with seed-beds 4′ apart on the lines, and sown with 20 seeds in each bed. The young trees already planted out at 20′ intervals round the circular road are doing fairly well; 357 new trees of kaint, simbal, tún and bakain were added in between existing trees. The sanatha hedge round the circular road and various inspection paths were kept in repair.

Out of 783 trees of kinds planted out 635 succeeded. The following statement shows the nursery work done during the year:—

Name.	Beds or Pots	Plants	Remarks.
Walnut	900	120	Plants 3″ to 6″ high. The rest still germinating.
Ritha	3 seers	160	Plants up to 6″ high. Strong and healthy; rest still germinating
Chui	¼ seer	20	Up to 9″ high. More expected.
Golab jaman ...	5 seers	*Nil.*	Expected.
Hill Kikar	1 seer	200	Up to 2′ high.
Behera	10 seers	*Nil.*	Expected
Oak	8 seers	29	Up to 6″ high Very strong plants.
Buil	½ seer	52	Up to 3′ to 4′ high. Do
Kachnar	2 seers	225	Up to 6′ high Healthy and strong.
Paja	6 seers	200	Up to 6′ „ Do.
Horse Chestnut ...	1 md.	1	Expected to germinate in the rains
Tún	½ seer	18	Up to 6.″ Strong plants.
Teghal	1 chittack	18	Do. Do
Siris	¼ seer	17	Do. Do.
Kurruk	7 seers	9	Up to 9″ Do.
Coera Rubber ...	98	*Nil.*	Expected to come up in rains
Caroli	5 seers	2,000 to 3,000	3″ to 9″ high. Others still germinating.
Mahogany	21	No germination	Bad seed.
Chamlia	4 seers	*Nil.*	

Cultural Operations in the Plains.

Plantations.

127. *Gujranwala Division.*—The only addition to plantations is an area of 8 acres in Bela Kotli Gohan; it was ploughed and sown broadcast during the rains at a cost of Rs. 5. The result is reported as very satisfactory. The sissu seed sown in Bela Náth and Pindi Tatar in 1883-84 has come on well, but, as the plants are scattered about in patches, no area can be brought under the head of plantation.

128. *Lahore Division.—Changa Manga.* All blanks in coppice compartments 6 and 7 were sown with sissu seed; germination good; success fair. Blanks in coppice compartments 43 and 44 were sown with mulberry seed; germination and success good. 1,65,905 farash cuttings were put out with great success in compartments 9 to 11, 39, 40, 44, 52, 77 to 83, 87 to 89, 92 to 94. 5,460 willow cuttings were put out along the Gandian and Shahpur rajbahas with great success. 23 acres of very bad sissu growth in compartments 14 and 15 were cut down and the area planted up with 17,170 farash cuttings, which, with the young sissu coppice, are said to be doing well. 2 sissu nurseries, ½ an acre each, were formed near compartments lately cut to provide for accidental blanks in the coppice.

11,181 acres were watered—

76 acres	.	4 times
255 „		3 „
2,778 „		twice
8,072 „	..	once only.

Compartments Nos. 19, 20, 23, 24, 27, 28, 32, 34, 35, 37, 40, 54 and 55, aggregating 909 acres were cut, 10 to 15 standards per acre being reserved. Kana grass was removed, branch wood burnt, and trenches cleared.

Shahdera-cum-Jugian.—162 acres of compartments 12, 13, 14 and 15 were cleared, leaving 15 to 12 standards per acre.

Serai Amanat Khan.—An area of 350 acres, with the reservation of a few seed-bearing trees, was cut over.

In the non-irrigated sissu rakhs, fellings extended over 372 acres at Rodeshah and 600 acres at Tera. These areas have been closed to grazing.

The following seeds were collected:—

Sissu	...	13 Maunds
Mulberry	...	4 „
Tun		10 „
Jhand	...	10 „
Kikar	...	6 „

Caterpillars appeared again in compartments 13 to 16, 27 to 35, 50, 52, 59, 60, 84 to 86, 88, 89, 97, 98, 102 to 104, but were destroyed by starlings. The undergrowth of mulberry is very remarkable both in cut and uncut compartments. In the cut compartments it has in places outgrown the sissu coppice.

In the Jhoke plantation a sissu nursery of 2 acres was formed to plant up the area, 225 acres, taken over from the zemindars of Bhart village, and is reported to be thriving; 71,000 willow cuttings were put out in the low-lying portions of this area, but owing to want of rain most of them died. 78 acres of this area were ploughed in lines 5 feet apart and sown with sissu and phulai with fair success.

The whole area, 382 acres, of the Nág plantation under tree growth was watered during the year, and the distributing channels and water-courses in 251 acres were carefully cleared and repaired and Kana grass removed at Re. 1 per acre. Two new water-courses of a total length of 8,610 feet were made during the year at a cost of Rs. 1-4-0 per 1,000 cft.

The carob plot was greatly improved during the year; a winding road 315′×10′ was made, and the entire area was cleared of all grass and jungle at a cost of Rs. 43. Besides sissu, mulberry, jhand, phulai, farash, willow, and kikar, the plot contains 1,040 eucalyptus, 272 carob trees, 50 catalpas, 20

chinars, 90 arjan, 9 tun, 35 pipal, 16 poplars, 794 longifolia and a large number of trees from lower Sewaliks. In pots ready to be put out there are 250 of the cultivated and 350 wild carob seedlings, besides 200 pipal, 50 jaman, 11 amaltas, 50 cypress and 200 longifolia seedlings; 16 eucalyptus and 38 carob blossomed and seeded during the year.

RAKH IMPROVEMENT.

129. *Gujranwala Division.*—Gujranwala District. Operations on a small scale were continued in Rakhs Kikranwali and Chichra, 3,380 running feet were trenched in Rakh Chichra and 3,400 in Kikranwali and sown in the spring with phulai, kikar, drek, bir, chhichra, P. glandulosa and olive. 1,473 plants from the Gujranwala nursery were put out in Kikranwali and 1,449 in Rakh Chichra, chiefly of tali, phulai, eucalyptus, drek and bamboos. 97 farash cuttings were also put out.

130. *Lahore Division.*—In Rakh Dhig 52 acres of the sowings of 1883-84 were kept carefully fenced, and 18 acres were resown with sissu, mulberry, tun, jhand and kikar seeds. The germination is reported to have been very good, but owing to the heat, jand and kikar only succeeded. An additional 112 acres were sown with jhand, kikar and shisham, which germinated well, but suffered much from the dry season. In Koto Lakhpat 600 acres are under treatment and kept closed against grazing. This area has been trenched and sown year after year with jhand and kikar, some of it succeeded well and portions of the Rakh are now fairly well covered with jhand, kikar, karil and bér. During the year 71 acres were sown on trenches with sissu, all of which have succeeded, and the ground is covered with seedlings 1′ to 3′ high. 10 acres of *rohi* land near the Railway line were planted up with 15,000 sissu transplants from the nursery alongside; the results of this are not reported. 1½ acres were sown with jhand, reru, phulai, and kikar, and the area was not irrigated; the germination is reported to be good. 2,86,000 running feet of trenches were cleared and ridged for sowings during the year, and 2 sissu nurseries of ⅛ acre each were formed. 9,510 willow cuttings and 20,453 farash cuttings were put out, and with the exception of 1,500 farash cuttings are reported to be doing well. 5,925 feet of fencing was repaired and 3,493 feet of new fencing made round the planted area. 161 acres were watered several times, and the four inspection paths were kept in repair.

In Rakh Chandra 20 acres were re-trenched and ridged and sown with phulai and jhand; sowings were not watered; success fair.

131. Nothing was done in the Mooltan Division during the year.

132. In the Montgomery Division jhand seed was sown broadcast in some of the reserves, and 2,910 farash cuttings were put out. The whole operations were a failure.

133. *Phillour Division.*—Phillour plantation. In Block I 20 lines of trenches were sown with phulai, 20 lines of trenches with Jhand and 20 lines of trenches with shisham; the rest of the block was sown where blanks existed with kikar seed. 550 mango trees were transplanted at intervals of 20′ in the trenches, of which 20 per cent. have succeeded. In block II existing blanks in the trenches were resown with kikar seed, and in blocks No. III and IV plough lines were run in between the lines of stools and sown with phulai and jhand.

In addition to the above works 9,800 running feet of trench were sown round the edges of blocks I, III and IV with jhand and phulai. A nursery was formed and sown with jaman seed and several thousands of plants were raised. A great number of these were, however, destroyed by cattle entering the enclosure. The surviving plants, 750 in number, have been transplanted into the Forest House compound.

7—FOREST IMPROVEMENT.

134. Operations falling under this heading are reported from only a few divisions.

135. *Chamba Division.*—To make way for deodar, 3,381 inferior trees were felled, 825 girdled, and 115 trees lopped in the Kalatop forest. The above operations go some way towards converting compartments 11, 12, 14 and 16 into

pure pine forests with a great preponderance of deodar, but more remains to be done. In the Kalatop forest there are now but few poplars to be seen, 3,058 trees, besides hundreds of young saplings having been destroyed up to the end of 1884-85. About 80 acres of the Kainthli forest were cleared of 8,175 inferior trees which were cut out at a cost of Rs. 361; and in the Kundi forest, upper Ravi Range, 333 poplars were girdled and got rid of. "Killar" (parrotia) growth, of which there is a good deal in this forest, is being removed by the villagers under a system of permits.

136. *Kulu Division.*—In the Dudhi plantation 155 kail saplings were cut out where interfering with the growth of deodar; 50 chil trees were cut out and 100 lopped in the Soma-Chalaon plantation. In the Blajdhar forest about 200 kail trees were lopped to half their height, and the loppings given to zemindars for manure in place of pine needles which they are in the habit of removing.

137. *Bashahr Division.*—The following forests were thinned of blue pine, which was suppressing deodar:—

Tranda Range:—

Panwi forest	..	100 acres.
Soongri	..	115 „
Tranda		50 „
Kumkumi	...	50 „

Trees of 2 feet in girth were only ringed. Besides blue pine, suppressed deodar poles were cut out of very dense groups, and in the Tranda, Nachar and Soongri forests creepers were cut out. Inferior trees were also removed from the Soongri forest.

138. In the Phillour Division creepers were cut out from 2 square miles of sal trees in the Kalesar forest.

8.—Exotic and European trees.

139. Captain Lee's garden in Kulu continues to thrive well, and as nothing now was done beyond clearing the garden during the year there is nothing to add to the description given of it in last year's report, but subjoined is a table which gives the present height and girth of trees.

No. of Block	Name.	Date of sowing	Date of trans-plantation.	Average height 1884-85.	Average girth 1884-85.
1	Eucalyptus Stuartiana	1878	1879	24 feet	3—1
	Cork Oak	1876 (in private garden)	1879	9—0	0—9
2	Acacia Decurrens	1878	1879	18—6	1—0
	Cupressus Govinsearia	1880	1881	18—0	1—6
3	Tasmanian blue-gum	1878	1879	25—0	1—3
	Cupressus Macrocarpa	1880	1881	...	...
4	Acacia Melanoxylon	1878	1879	10—10	0—6
	Lombardy poplar	1878	1879	...	...
5	Eucalyptus Goniocalyx	1878	1879	18—6	1—1
	Pinus coulteris	1880	1881	...	...
6	Acacia dealbata	1878	1879	22—7	1—3
7	Eucalyptus viminalis	1878	1879	30—10	1—9
8	Acacia pycnantha	1878	1879	24—0	1—1
	Eucalyptus Oleosa	1880	1881	...	...
9	Eucalyptus Melodera	1878	1879	15—10	0—11
10	Eucalyptus Globulus	1878	1879	32—6	1—5
11	Eucalyptus Polyanthemus	1878	1879	14—6	0—6
12	Eucalyptus fissilis	1878	1879	28—7	1—6
13	Eucalyptus Globulus	1878	1879	35—0	1—10
		Received from Europe	Spring		
14	Olives from south of France ...	1880	1880	6—9	0—8
15	Eucalyptus Sideroxylon	1880	1881	20—0	...
	Eucalyptus rostrata	1880	1881	...	...
	Eucalyptus Panculata	1881	1882	...	...
16	Eucalyptus Longifolia	1881	1882	12—5	0—8

Experiments under Departmental Supervision.

140. *Eucalypti.*—Are reported to thrive remarkably well at Abbottabad. Rawalpindi Division reports that of the two trees at Ghora-galli one was destroyed by snow, and the two smaller ones mentioned in last year's report were cut back and fenced, and look fairly healthy; but, owing to having been nibbled by animals, do not promise well. Some trees at Barakao 3 and 4 years old are reported to be doing well. 11 kinds of Eucalyptus seed were sown during the year, and, with three exceptions, all germinated. In November a few plants were put out in villages on the Lakat-Jandala range, and have succeeded well. The Chamba Division reports 100 trees alive and doing well at Bakloh, and in the Jhelum Division 4 trees, sown in 1878, are reported to be alive in Bela Pira Ghaib. They have as yet only attained an average height of 22 feet and 19 inches girth. In rakhs Kikranwali and Chichra of the Gujranwala Division the eucalyptus is said to thrive well; but in the Pabbi forest the plants suffer a great deal from the heat. At Changa Manga they are now grown in groves instead of avenues, as it is found they thrive better planted in this way. Several trees blossomed and seeded during the year. At Sabathu there is a small plantation of eucalyptus, planted out some years ago. As they did not appear to thrive at an elevation of about 4,000 ft. a number were transplanted to a lower elevation, and 106 trees are now reported to be doing very well, having attained an average height of 22 feet and girth 7 inches. Eucalyptus does not thrive at Sabathu and its cultivation was discontinued in 1882.

141. *Eucalyptus Viminalis.*—4 oz. of seed was received in October 1883 and distributed for experimental cultivation to the Rawalpindi, Jhelum, Gujranwala, Lahore and Phillour Divisions.

In the Rawalpindi Division the seed was sown during December 1883 in the Khari Murat reserve, at Barakao, 15 miles from Rawalpindi, and Ghora-galli. At Barakao and Khari Murat the sowings failed, but at Ghora-galli the seed germinated freely, and the seedlings were put out singly in pots. In 1884 these were transplanted out, but only a few plants are said to be alive.

In the Jhelum Division the seed was not tried till late in 1884, and, owing to want of rain, failed. A few seedlings, however, raised in pots and regularly watered were subsequently planted out, and eight of these are reported to be alive.

In the Gujranwala Division the seed was sown in pots during 1883 and germinated very freely. During 1884, 255 seedlings were transplanted in Rakh Kikranwali and 142 in Rakh Chichra. Of these 195 are reported to be alive in Kikranwali and 93 in Chichra.

In the Lahore Division the following are the results of the sowings :—

		Sown.	*Germinated.*
Changa Manga	...	Feby. 1884.	Feby. 1884.
Carob plot ...	...	Do.	Do.
" " ...	...	Do.	March 1884.
" " ...	...	March 1884.	April 1884.

The germination was exceedingly good and promised well, but during the rains nearly all died. In the Phillour Division the seed was sown in June 1884, at Sabathu, in shallow boxes, and germinated freely. The seedlings progressed favorably, but, owing to want of care during the absence of the Divisinal Officer from Sabathu, were all destroyed by birds and insects.

142. *Carob.*—There are 136 plants at Changa Manga and 922 in the Carob plot; all doing well; several bore fruit during the year. Of the wild corob seed procured from Cyprus in 1884, 150 plants from 6 ″ to 2½′ high are said to be alive in the Beas Division. In the Jhelum Division the seed was

sown during the rains and germinated freely, and the plants, though small, are reported to be doing well. In the Gujranwala Division of 125 plants put out, 115 are reported to be alive. In the Lahore Division 350 healthy young plants are reported to be alive in pots ready to be put out.

The following table shows the number and species of plants tried and with what success in the Pabbi and in rakhs Kikranwali and Chichra of the Gujranwala Division:—

Name of Plant.	Pabbi.		Kikranwali.		Chichra.		Total.	
	Put out.	Now surviving.	Put out.	Now surviving.	Put out.	Now surviving.	Put out.	Now surviving.
Eucalyptus (Viminalis)	...	...	255	195	142	93	397	288
Carob (Antonia siliqua)	118	108	...	...	7	7	125	115
Tallow (Excœcaria sebifera) ...	34	18	13	7	15	7	62	32
Chil (Pinus longifolia)	88	59	3	2	5	1	96	62
Mesquit Bean (Prosopis glandulosa)...	20	16	...	...	36	34	56	50
Bamboo	9	9	...	...	38	6	47	15
Mango	5	5	18	18	...	...	23	23
Mysore Thorn (Cæsalpinia Sepiaria) ...	10	9	...	...	32	5	42	14
Feronia Elephantum (Australian Salt Bush)	1	1	...	...	...	...	1	1
Atriplex Nummalaria	5	5	5	4	4	4	14	13

143. The following seeds were procured from Germany and distributed to the Hill Divisions as follows:—

Hazara Division.—1. Ribes grassularia (gooseberry).
2. Rubus rubrum (red currant).
3. Rubus idœa (blackberry).
4. „ fructicosus (ditto).

The seeds were sown in May 1884 at Changla-galli, but failed to germinate.

Chamba Division.—1. Ribes grassularia (gooseberry).
2. Rubus rubrum (red currant).
3. „ idœa (blackberry).
4. „ fructicosus (ditto).
5. Cedrus atlantica.
6. Paliurus aculeatus (thorny hedge).

The fruit species were sown in August and November 1884, but did not germinate. No. 5 also failed. The Paliurus aculeatus seed was sown at Kalatop and Kainthli, both in nurseries and along a hedge, and germinated well. It will be planted out in 1885.

Kulu Division.—1. Ribes grassularia (gooseberry).
2. Rubus rubrum (red currant).
3. „ idœa (blackberry).
4. „ fructicosus (ditto).
5. Cedrus atlantica
6. Paliurus aculeatus (thorny hedge).

Nos. 1 to 4 and No. 6 were sown in June 1884 and No. 5 in November 1884; all failed but the Paliurus aculeatus, of which there are said to be a few plants alive. The Cedrus atlantica germinated, and the seedlings reached a height of 2 inches, but died during the winter.

Bashahr Division.—Castanea vesca (chestnut).
„ Macrocarpa (ditto).
Olea Europea (olive).
„ Hispanica (ditto).
„ Oblonga (ditto).
Ribes grassularia (gooseberry).
Rubus rubrum (red currant).
„ idœa (blackberry).
„ fructicosus (ditto).

The seeds were sown both at Nachar and Kilba in June 1884, but failed to germinate.

144. In the Lahore Division there are 300 or 400 plants of catalpa at Changa Manga, Shahdera and the carob plot. In Changa Manga they have attained a fair size, but grow slowly in Shahdera and the carob plot. The pinus longifolia seed at Changa Manga and the carob plot germinated freely, and 814 plants are reported to be alive. Some mahogany seed received from the Superintendent Botanical Gardens was tried at Changa Manga and the carob plot in the Lahore Division, but did not succeed well, only one plant being reported as alive. Experimental sowings of the salt bush (Atrilex nummalaria) and sheep bush (Pentzia vergata) were made in the carob plot at Lahore. The latter failed entirely; of the former one plant is reported to be alive. In the Phillour Division some experiments were made with seed of the Coera rubber (Mainhot glaziovii) procured from Ceylon, but it is too early yet to report on the results.

European Trees.

145. Of the English trees in the Ghora-galli Forest garden the following were put out in the Seribari Reserve at an elevation of 5 to 6,000 feet:—17 oaks, 10 elms, 7 mountain ash. 4 of the oak transplants are said to have died.

The following is a list of European trees in the Bashahr Division:—

Chestnuts	58
Ash	34
Olive	17
Fruit trees	73

The avera ge girth and height of the chestnut and ash at Kilba are recorded annually. The yield in chestnuts is as yet very small, two bushels being collected. The olive trees are from 2 to 3 inches in girth and 3 to 6 feet high. The fruit trees are of the very best kind. The ash are very erect, and are growing fast.

9.—Communications and Buildings.

146. The expenditure for the Province under this head amounted to—

				Rs.
Communications		...	..	4,272
Buildings	..	...	...	6,508
Other works		...	...	29
		Total		10,809

or Rs. 3,915 less than in the previous year.

147. *Hazara Division.*—The Thandiani-Nathi-galli road, the road to Mushpuri, and the paths round Changlagalli, were repaired at a cost of Rs. 121, and existing pathways in the Khanpur Range were widened at a cost of Rs. 19. The out-offices of the Thandiani and Dunga-galli houses were repaired, and two rooms added to Changla-galli house at a cost of Rs. 273.

148. *Rawalpindi Division.*—Inspection paths were made in the Murree and Kahuta Ranges at a cost of Rs. 41, and existing roads were kept in repair. The Ghora-galli forest house was repaired at a cost of Rs. 173, and a small verandah built on to the office at a cost of Rs. 32. Guards' huts were repaired.

149. *Chamba Division.*—During the year inspection paths were made at a trifling cost in the Kalatop forest, and existing roads were kept in repair at a cost of Rs. 211. In the Kainthli forest 3 miles of inspection paths were made at a cost of Rs. 73. In the Chatri forest a path, 6,200 feet long, was made from the village of Chunan up through the Topi Block to the Chatri Got at a cost of Rs. 17, and another path was made through the forest on the Rupani side ; existing pathways were kept in repair. The forest house at Kalatop and guards' huts at Bakloh and Banikhet were repaired. The forest house at Kainthli was re-roofed, and a new hut erected for the guard.

150. *Beas Division.*—A hut for the forest guard was built in the Bindraban bamboo reserve, and existing buildings kept in repair. The road leading from the Chitral forest house to the main road was repaired.

151. *Kulu Division.*—8 miles of new road was constructed at a cost of Rs. 73, and 2 miles of old road repaired. The building of a forest house at Nagar was made over to the Public Works Department, but, owing to the want of decision as to a proper site for the building, nothing was done during the year under report. The Phulga house was nearly completed, the floor, doors and windows alone remaining to be finished. The out-houses at Manali, the Forest office at Sultanpur, and the guard's hut at Bajoura were repaired, a ceiling was put on to the house at Jerri, at a total cost of Rs. 43.

152. *Bashahr Division.*—An inspection path, 4 miles long, was made from Sapni to join the path which goes through all the forests of the Kilba Range. Existing roads and slides were kept in repair. Timber for a new bridge across the Sutlej at Shoultu was cut. The subjoined statement shows the check walls constructed during the year.

Name of Forest.	Nature of Works.
	CHECK WALLS
Yani .	1 check wall 50 feet long, 8 ft. wide and 10 ft. high
"	1 check wall 90 feet long, 20 ft. wide and 6 ft. high
Kilba	5 check walls 20, 25, 18, 25, 18 ft long, averaging 4 feet wide and 6 ft. high
"	2 check walls 12, 40 ft long, averaging 6 ft. wide and 7 ft high
Kunhi ..	3 check walls, 38, 43, 38 ft. long, averaging 5 ft wide and 7 ft. high
W. Nachar ...	1 check wall, 50 ft. long, 6 feet wide and 15 ft high
E Nachar ...	1 check wall 68 ft. long, 15 ft. wide and 5ft. high
"	1 check wall 30 ft. long, 6 ft wide and 18 ft. high
Dulpa ...	1 check wall 57 ft. long, 12 ft. wide and 6 ft high
"	1 check wall 30 ft long, 12 ft. wide and 8 ft. high
" ...	1 check wall 120 ft long, 13 ft. wide and 6 ft. high
Junpan ...	2 check walls 30 and 22 ft. long, 6 ft. wide and 9 ft. high averaging
	WOODEN SHOOTS.
Kilba	1 wooden shoot 206 ft. long, and 4 ft wide
" .	Do. 240 ft. long, and 4 ft wide
W Nachar .	Do 863 ft. long, and 4 ft. wide
Tickru ...	Do 150 ft. long, and 4 ft. wide
Wasankan .	Do 160 ft. long, and 4 ft. wide
	EARTH SLIDES
Yani	5,280 ft. long, and 22 ft wide
E Nachar	5 280 ft long, and 18 ft. wide
" ...	260 ft long, and 24 ft. wide
"	1,352 ft long, and 24 ft wide
Dulpa ...	57 ft long, and 12 ft wide
Tidang	40 ft. long, and 11 ft. wide
	POSTS IN FRONT OF CHECK WALLS
Kunhi ..	23 posts 12 ft. long, 6 ft. in ground and 6 ft above ground
" .	24 Do
	LEVELLING AND CLEARING GROUND FOR PLATFORMS.
Kunhi	28 ft. long and 28 ft wide and 33 ft. × 33 ft
	FILLING IN ROCKS &c.
Kunhi ...	75 feet × 12 ft
	MAKING MINES &c. ON THE ABOVE SLIDES 2,560 FEET.

A dwelling house was built in the Phinla Forest and 3 foresters' huts were constructed, two in the Tenden and Kias Forests in the Pandrabis Range and one at Tranda. The office at Kilba was enlarged and out-offices rebuilt and repaired. The total expenditure for the year was

	Rs.
Roads . .	3,187
Buildings .	2,308
Other works	
Total	5,495

The cost of separate works is not given by the Divisional Officer.

153. *Jhelum Division.*—The building commenced during the previous year in Rakh Gandhala was completed at a cost of Rs. 201, and the Forest houses and the rest-houses at Dilur and Drengan were repaired at a cost of Rs. 238. The roads leading up the Dilur hill to the Forest house were also repaired at a cost of Rs. 66.

154. *Gujranwala Division.*—The bridges on the road running through Rakh Kikranwali in the Gujranwala District and the road running through Rakh Dhul in the Gujrat District were repaired. The bridle paths in the Pubbi plantation were kept in repair. The Forest houses at Wazirabad and Bunni, the Rangers' huts at Karkan and Bahr, the Foresters' huts at Shahkot and Khaja Chak, and the guards' huts at Kikranwali, Chichra, Lalyani, Ahluiwali and Beli Trot were repaired.

155. *Lahore Division.*—In the Changa Manga plantation 80 miles of compartment roads were cleared of grass and jungle, and 166 bridges re-built over water-courses; cost not given. In Rakh Kot Lakhpat 2 miles of roads were cleared of stumps and grass and trenched on both sides. In Mehmud Buti nearly 1½ miles of road was cleared of Kana grass and jungle at a cost of Rs. 14. In Shahdera nearly 1 mile cleared for Rs. 8. In Jugian 1 mile of high road was cleared of grass for Rs. 9, and a new road, 1 mile long, made for Rs. 13. Four additional stop dams were made at Changa Manga, 2 in Gandian and 2 in Rajbahas. Existing buildings were repaired.

156. *Mooltan Division.*—Temporary bridges of wood, mud and grass for inspection purposes were made over the nallahs in the Khanwah Reserve, Lodhran Range. A guard's hut was built at Jelalpur, Lodhran Range, at a cost of Rs. 109, and another was built for the Serai Sidhu Range at a cost of Rs. 21. A guard's house was commenced near the Sahoki Reserve in the Mailsi Range. Guards' huts at Sharaf and Chak Bhanu were repaired at a small cost.

157. *Montgomery Division.*—A guard's hut was built in Reserve Dad Fatiana, and 4 huts were repaired at a cost of Rs. 38.

158. *Phillour Division.*—13 inspection paths were made in the Phillour plantation during the year, and 2 roads 24 feet broad were cleared through the length of the Ludhiana plantation. In the Sabathu plantation a new inspection path, 19,604 running feet, was made in the new extension at a cost of Rs. 73. The depôt house at Phillour was repaired at a cost of Rs. 137. The guard's hut and store godown were also repaired at a cost of Rs. 11. The depôt houses at Rupar and Naila were repaired at a cost of Rs. 55. At Palhan and at Kalesar the Forest houses underwent slight repairs. The Forester's hut at Kalesar was completed during the year at a cost of Rs. 119.

CHAPTER IV.—YIELD AND WORKING.

1.—Departmental Operations.

159. Abstracts of Forms 58, 59, 60, 61 and 62 are appended and show—

A.—Trees felled by Government agency during the year.

Divisions.	De odar.	Pine.	Other trees.	Total.
Hazara	...	...	63	63
Chamba	1,680	473	...	2,153
Kulu	383	...	...	383
Bashahr	1,916	102	...	2,018
Total ...	3,979	575	63	4,617

B.—Outturn of timber and other produce cut and collected by Government agency during the year.

Divisions	Deodar.	Pine.	Sleepers.	Scantlings.	Other pieces.	Total.
Hazara	...	...	...	3,326	...	3,326
Rawalpindi	...	...	...	54	63	117
Chamba	7,341	2,055	6,744	11,292	...	27,432
Beas	13	3	...	3	182	201
Kulu	591	...	9,890	...	203	10,684
Bashahr	5,259	364	...	...	...	5,623
Lahore	...	...	...	...	450	450
Mooltan	...	...	...	...	3,150	3,150
Phillour	2	...	...	...	734	736
Total ...	13,206	2,422	16,634	14,675	4,782	51,719

Add—Hazara	Division—	Shingles	...	1,92,135	pieces
"	"	Firewood	.	1,124	maunds
"	"	Charcoal		90	"
Rawalpindi	"	Firewood	...	113	"
"	"	"	...	6,397	cubic feet
"	"	Charcoal	...	9,835	maunds
"	"	Grass	...	219	"
Beas	"	Bamboos	...	6,22,850	pieces
Lahore	"	Firewood	..	16,83,812	cubic feet
Mooltan	"	"	.	1,35,573	"
Montgomery		"	..	1,22,800	"
Phillour	"	"	..	9,250	"

C.—Timber received in Sale Depôts from the forests.

Divisions.	Deodar logs.	Pine logs	Sleepers	Scantlings.	Other pieces.	Miscellaneous.	Total.	
							Number.	Cubic feet.
Chamba ...	1,681	349	10,112	11,292	305	...	23,739	88,008
Beas ...	1,386	103	64	26	2,952	...	4,531	50,763
Bashahr ...	2	...	...	...	769	24	795	325
Jhelum ...	4,571	6,320	25	947	3,195	...	15,058	2,26,613
Gujranwala ...	3,535	26	163	...	168	...	3,892	57,385
Lahore ...	...	...	...	...	...	450	450	...
Phillour ...	5,231	331	5,691	...	1,746	24	13,023	1,15,366
Total ...	16,406	7,129	16,055	12,265	9,135	498	61,488	5,38,460

Add—Rawalpindi	Division—	Charcoal	...	9,737	maunds
Chamba	"	Firewood	..	14,880	cubic feet
Beas	"	"	...	50	pieces
"	"	Bamboos	...	6,22,981	"
Jhelum	"	Kikar	...	560	maunds
Lahore	"	Firewood	...	15,84,035	cubic feet
Phillour	"	"	...	492	pieces
"	"	Bamboos	...	4,203	"
"	"	Slabs		121	maunds

D.—Timber removed by purchasers from Depôts.

Divisions.	Deodar logs.	Pine logs.	Sleepers.	Scantlings.	Other pieces.	Miscellaneous	Total.	
							Number	Cubic feet.
Chamba ...	1,681	349	13,313	8,539	305	...	24,187	90,122
Beas ...	546	127	4,819	338	1,962	70	7,862	25,385
Bashahr ...	...	...	...	1,104	764	24	1,892	1,415
Jhelum ...	4,711	9,338	2,251	957	2,272	...	19,529	2,61,073
Gujranwala ...	4,511	26	1,638	...	168	...	6,343	80,914
Lahore ...	...	...	...	...	...	450	450	...
Phillour ...	5,355	331	3,483	...	2,069	...	11,238	1,21,964
Total ...	16,804	10,171	25,504	10,938	7,540	544	71,501	5,80,873

Add—Rawalpindi	Division—	Bamboos	..	3,286	pieces
"	"	Charcoal	...	9,660	maunds
Chamba	"	Firewood	...	14,880	cubic feet
Beas	"	"	...	50	pieces
"	"	Bamboos	...	6,20,884	"
Jhelum	"	Kikar	...	560	maunds
Lahore	"	Firewood	...	17,27,545	cubic feet
Phillour	"	"	...	1,719	pieces
"	"	Slabs	...	2,654	maunds
"	"	Bamboos	...	3,937	pieces

D 1.—Timber removed and sold locally.

Divisions.	Deodar logs.	Pine logs.	Sleepers.	Scantlings.	Other pieces.	Total. Number.	Total. Cubic feet.
Hazara	...	...	...	3,189	...	3,189	3,042
Rawalpindi	...	...	...	22	...	22	...
Chamba	437	123	...	97	2	659	11,404
Beas	...	...	...	...	685	685	...
Kulu	2	...	...	...	203	205	152
Gujranwala	...	...	3	...	...	3	...
Mooltan	...	...	...	...	2,275	2,275	...
Phillour	2	...	1	...	53	56	9
Total ...	441	123	4	3,308	3,218	7,094	14,607

Add—Hazara	Division—	Shingles	... ...	1,97,875	pieces
"	"	Firewood	... ...	1,072	maunds
"	"	Charcoal	... ...	87	"
Rawalpindi	"	"	... ...	98	"
"	"	Firewood	... ...	113	"
"	"	"	... ...	29,685	cubic feet
"	"	Grass	... ..	219	maunds
Chamba	"	Firewood	... ...	34,786	cubic feet
Beas	"	Bamboos	... ...	13	pieces
"	"	Grass	... ...	2	loads
Gujranwala	"	Firewood	... ...	4,819	cubic feet
Lahore	"	"	... ...	99,477	"
Mooltan	"	"	... ...	77,468	"
Montgomery	"	"	... ...	1,22,800	"
Phillour	"	Bamboos	... ..	87	pieces

E.—Timber account of the year.

	Number.	Cubic feet.		Number.	Cubic feet.
Balance at commencement of year	36,476	2,36,156	Removed by purchasers ...	71,501	5,80,873
			Used by the Department ...	1,352	1,982
Received from the forests in depôts during the year	61,488	5,38,460	Returned to owners ...	2,281	3,216
Received by conversion in depôt	956	1,139	Transferred to other classes	48	6
			Transferred to drift timber	98	1,957
Received in transfer from firewood	5	6,106	Rafted to other depôts ...	2,749	41,021
Received from the forests and sold locally	7,094	14,607	Lost by measurement ...	...	305
			Converted in depôts ...	363	7,841
Received from the forests locally and used by the Department	539	579	Lost by floods	1,355	...
			Sold locally	7,094	14,607
Received from the forests locally and destroyed by snow	13	16	Used by Department locally	539	579
			Destroyed by snow... ...	13	16
			Balance at close of year ...	19,178	1,44,660
Total ...	1,06,571	7,97,063	Total ...	1,06,571	7,97,063
Maunds ...	4,154	...	Maunds ...	4,154	...

160. *Work in the Upper Rivers.*—A comparison of the trees felled during the present and previous years—

1883-84	5,585 trees
1884-85	4,617 „

shows a decrease of 968 trees.

In deodar there is a decrease of 1,044 trees, and in other trees of 260 trees, while there is an increase in pines of 336 trees.

161. In the *Hazara Division* fellings were limited to 52 blue pine and 11 silver fir trees cut in the Dunga-galli Range for the supply of scantlings and shingles to the public.

During the year 2,133 deodar logs were launched from the Shinoo forests in the Kaghan Range, and 424 logs lying stranded on the banks of the Kunhar were rolled into the stream. All stranded logs between Shinoo and Saligram were counted and found to number 2,762; of these 2,745 bear the Government mark and 17 are drift.

The launchings from the Shinoo forests have reduced the 6,505 logs supposed to be lying in these forests to 4,372. Of this balance only 2,777 can so far be traced. The matter is now being investigated on the spot by a Gazetted Officer, and will be specially reported on.

162. *Chamba Division.*—In the forests of the Upper Ravi 514 deodar trees were felled and logged in the Bohar forest for extraction by the Bakaini temporary slide. For conversion into sleepers 415 deodar in the Chatri and 14 in the Rupani forest were felled. In the Siya forest 426 blue pine were felled, and these together with 14 windfalls were logged. In the Pangi Range 688 deodar trees were felled and logged in addition to 205 windfalls. The fellings extended to the following localities:—

Localities.	Number of trees.
Sagalwas	60
Pungun	55
Tanda	85
Nildhar	115
Ajog	20
Rangi	185
Bara Bambal	115
Chota Bambal	21
Luj	32
Total	688

In the Kalatop Range fellings were distributed as follows:—

Kalatop.	Deodar	Tos	Rhai
Compartment No. 23 ..	10 . .	2	0
" No. 5 ...	1	0	0
" No. 27 ...	0 . ..	9	36
Total ...	11	11	36
	Deodar		
Kainthli	38	0	0

In all 1,449 deodar trees have been felled in the Bohar forests during the past 2 years, and logs, the produce of these trees, had at the close of the year been put in position over 5,600 running feet out of 12,400 feet, which it is necessary to cover by a slide in order that logs may reach the Ravi river.

The foundation for the support of the slide has been prepared throughout the entire length, and it is expected that all logs for the roadway will be in position, and that timber will be sliding down to the Ravi by the end of July.

Of the 10,000 broad-gauge sleepers contracted for from the Chatri forests during the previous year, 9,643 reached the depôt at Shahdera, 357 were missing, and the contractor is liable to forfeit Rs. 2 on each.

Of a second batch of 10,000 sleepers which are to be cut, sawn and launched by contract, but floated by separate arrangement, 3,824 had been passed and launched at the close of the year.

163. In the Kulu Division 383 deodar trees were felled and converted into 144 logs, 7,664 broad-gauge and 2,068 narrow-gauge sleepers.

447 logs, 87 broad-gauge and 71 narrow-gauge sleepers were obtained from dry and fallen timber.

An insufficient account is given of timber works in this division. It is merely stated by Divisional Officer that 79 miles of river were cleared, by pushing off 3,234 logs at a cost of Rs. 226.

164. *Bashahr Division.*—The fellings comprised 1,154 green deodar trees, 762 dry deodar trees and 102 blue pines; 456 unlogged trees were on hand from the previous year, making a total of 2,474 trees. Of these 1,408 trees were converted into 5,623 logs, leaving a balance of 1,066 unlogged trees at the end of 1884-85.

During the year 6,479 deodar and 587 pine logs were launched, leaving 4,381 deodar logs in the forests. The average cubic contents of logs launched is much the same as that of the previous year.

The floods in the upper river were not so high as during the last 3 years, although on the lower river they rose above their normal height. The consequence was that a larger number of logs were stranded than in the previous year.

Property marks were put on 246 pieces of waif, and the sweeping party landed 2,126 logs, 353 pieces and 52 waif pieces at Naila.

Receipts in Depôt.

165. There is a decrease in the quantity of timber brought to depôt, as exhibited in Table C, of 4,92,638 cubic feet (comprising 10,456 deodar logs, 7,277 pine logs, 5,461 scantlings and 12,739 other pieces) as compared with the previous year. The decrease is owing to the absence of floods in all the main rivers, and particularly in the Jhelum, Chenab and Sutlej rivers.

166. *Chamba Division.*—There were no proper freshets on the Ravi, and this is the third year that a similar report is made. The receipts in depôt, however, compare favorably with those of the previous year—534 deodar logs and 21 pine logs having been received in the Shahdera depôt in excess of the receipts of 1883-84. In the Shahpur depôt also there is an increase in receipts of 638 deodar logs and 183 pine logs. Hitherto timber received at Shahpur has been sent on to the Shahdera depôt for sale, but it was found that better prices could be obtained by selling in the river, and the timber was all sold near Shahpur.

The following statement shows logs launched in different years received in Ravi Depôt during the year:—

	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	Without year	Year effaced	Total
Deodar	3	...	9	28	7	17	38	31	13	8	46	517	136	137	857	251	2,098
Pine	...	...	1	1	...	...	...	...	2	...	1	2	2	44	358	55	466
														Total			2,564

This includes 534 pieces sold locally at transit depôts. It will be observed that the greatest number of those with year marks are of 1882, showing that it takes three years to get logs to depôt.

In the Kalatop depôt there is again a slight decrease, only 11,292 scantlings containing 12,081 cubic feet having been brought to depôt against 12,064 scantlings containing 13,587 cubic feet the year previous.

The experiment of sawing-up scantlings at Shahpur and bringing them for sale to Dalhousie was not continued, as it pays better to take logs down to the plains; sufficiently good prices were, however, realized to prove that, if at any time the necessity arises, the Dalhousie market can be easily supplied from the river.

167. *Beas Division.*—In the Wazir Bholar Depôt 223 deodar logs and 6 pine logs were received in excess of the previous year, though from this division as well as from others the floating season is reported as unfavorable.

With reference to para. 159 of last year's report, the Divisional Officer explains that there was no falling off in the cubical contents of logs. There was merely a falling off in the cubical contents of the timber received in depôt taken all round, but the deoder logs, which in 1882-83 averaged 27 c.ft. in 1883-84 averaged 36 c.ft. The average cubic contents of the deodar logs received in 1884-85 is 34 cubic feet.

168. *Bashahr Division.*—In the Bashahr sale depôt at Suni 2 deodar logs, 24 boxwood logs, and 769 other pieces were received.

169. *Jhelum Division.*—In the Jhelum sale depôts there is a decrease of 4,943 deodar logs, 7,036 pine logs, 746 sleepers and 4,693 scantlings, and though there is an increase of 732 other pines we find a decrease of 3,61,098 c.ft. as compared with the previous year. The decrease is owing to there being no heavy floods and to the fact that most of the timber brought down by the extraordinary water of 1882 was collected during 1883-84.

Timber bearing Government marks amounted to 2,00,995 c.ft., unmarked timber to 25,618, and traders' timber to 2,700 c.ft. No statement of the different years' launchings to which logs belonged was received from this division.

170. *Gujranwala Division.*—In the Chenab River Range, which collects the timber from the Chamba Division, Pangi Range, the receipts are as follows:—

Marked		3,535	deodar logs		56,003	c.ft.
Unmarked	.	170	„		2,962	„
Marked	...	26	pine	..	403	„
Unmarked	...	60	„	...	807	„

163 marked sleepers and 168 marked scraps and pieces, altogether 57,385 cubic feet of marked and 3,769 of unmarked timber were received, showing a decrease of 6,021 c.ft. The deodar logs received were originally launched in the following years:—

1862	1864	1865	1869	1870	1872	1873	1874	1875	1876	1877	1878	1879	1881	1882	1883	1884	Without marks	Broken	WXI XW	Total.
1	1	2	2	1	1	1	2	7	8	15	12	8	9	75	2,547	169	566	102	4	3,535

171. In the Phillour Division, which collects the Bashahr timber, 6,784 deodar logs, 354 pine logs and 2,247 other pieces less were received than in the previous year, and though there is an increase of 5,677 sleepers and 24 boxwood logs, yet there is a total decrease of 1,20,463 c.ft. as compared with the previous year.

Sale at Depôts.

172. All Divisions except Bashahr and Gujranwálá show a decrease in sales at depôt. The total quantity of timber sold from depôts is less than in the previous years by 2,88,666 cubic feet.

The following average prices per cubic foot were realized:—

Description of Timber	Hazára Division.	Chamba Division	Beas Division.	Jhelum Division	Gujránwala Division	Phillour Division
	Rs A P	Rs A P	Rs A. P	Rs A P	Rs. A P	Rs A. P
Deodar logs		0 8 8	0 13 7	0 8 6	0 9 1	0 8 8
Pine "		0 4 1	0 5 8	0 3 2	0 5 0	0 4 0
Sleepers B. G.	.	0 13 3	2 7 0 *		2 8 0 *	
Do. N G.	.		0 12 0 *			1 1 0
Scantlings .	0 8 0	0 8 0	2 2 10 *		0 10 6	
Waste wood ..		0 0 8	0 3 5	0 0 9	0 5 0	*0 15 0

* Per piece.

The prices realized at Kalatop were—

	Rs.	A.	P.	
Deoder logs	1	0	2	per cubic foot
Pine "	0	7	7	" "
Sleepers ...	1	4	0	each
Deodar scantlings ..	1	0	2	per cubic foot
Tos	0	9	0	" "
Rhai .. .	0	6	2	" "

Local Exploitation and Sales.

173. A contract entered into with the Punjab Northern State Railway was successfully carried out, and 10,30,000 cubic feet of firewood were supplied at Rs. 5-10 per 100 c.ft. delivered on wagons at Changa Manga.

The purchase of 1½ miles of DeCauville's tramway materially facilitated the work, and the cost of carriage was only one-fifth of what it could have been done for by country carts.

174. In the *Hazara Division* over 15,000 more shingles were prepared than during the previous year, and 1,97,875 were sold against 1,70,108 during 1883-84. There was, however, a large decrease in the sale of scantlings, 3,189 containing 3,042 c.ft. having been sold against 16,953 containing 20,438 c.ft. in the previous year. This is owing to smaller indents being received from the Public Works Department. A small quantity of firewood and charcoal was, for the first time, brought out by departmental agency and sold to the residents of Abbottabad. As both these products are difficult to procure and very expensive in Abbottabad, the supply will, if possible, be increased.

175. In the *Rawalpindi Division* 9,737 maunds of charcoal were brought to depôt, of which 9,660 maunds were disposed of; 3,286 bamboos were also sold from depôt; 27,424 c.ft. of firewood were sold to the Murree Brewery, and small quantities of firewood, charcoal and grass were disposed of locally.

176. *Chamba Division.*—The smaller outturn of scantlings from the Kalatop forest has already been mentioned; 34,786 cubic feet of firewood were disposed of locally.

177. *Beas Division.*—The outturn of bamboos, which was regulated by the demand, was again less than in the previous year.

178. *Bashahr Division.*—An experimental lot of boxwood was auctioned at Simla and realized Rs. 3-6 per maund or Rs. 94-8 per ton.

179. *Lahore Division.*—Departmental operations consisted of the following clear cuttings in Changa Manga:—compartments 14, 15, 19, 20, 23, 24, 27, 28, 32, 34, 35, 37, 40, 54, 55=925 acres, which produced 12,21,590 cft. or 1,321 per acre.

Jugian 96 acres yielding 2,61,660 cft. or 2,725 cft. per acre.

Thinnings in Changa Manga gave 37,370 cft., and in other reserves 1,63,192 cubic feet. The balance of firewood at the commencement of the year was 3,37,375 cft.; 16,83,812 cft. were cut and stacked during the year; of this 15,84,035 cft. were brought to places of sale and included in depôt forms, while stacks containing 99,477 cft. were sold locally. Sales from depôt amount to 17,27,545 cft.; 19,865 cft. were lost in re-stacking and 900 cft. were used departmentally. The balance remaining in hand at the close of the year was consequently 1,73,400 cubic feet.

The following were the average rates realized on sales during the year:—

Description of Produce.	Rate per 100 cft.			
Clear cuttings	4	14	5	
Thin wood	...	14	...	
Thinnings	3	13	...	
Sissu poles	1	6	...	each.
Brushwood	...	3	6	

The following were the rates paid for cutting and stacking:—

Cutting and stacking 5 ft. billets @ 5-14-0 per 1,000 cft.
" " 2½ " @ 7-10-0 " "

180. *Mooltan Division.*—Departmental operations consisted of the following:—

From Vinoi Reserve, compartments 1 and 2, 47,184 cft. were cut and stacked; from Jelalpur Reserve 31,070 cft., or a total of 78,254 cubic feet.

There was a balance on hand from the previous year of 48,257 cft., making a total of 1,26,511 cft.; 69,526 cft. were disposed of, leaving a stacked and unsold balance of 56,985 cft.; 1,000 cft. of wood was also sold locally.

181. In the Montgomery Division 1,22,800 cft. of wood was disposed of locally.

2. Removal of produce by purchasers.

182. The following is an abstract of all forest produce removed by purchasers:—

Description of produce.	1883-84.	1884-85.	More.	Less.
Deodar trees	316	89	...	227
Other "	13,942	11,433	...	2,509
Poles and dry logs	1,021	14,265	13,244	...
Firewood, cubic feet	55,69,449	67,42,641	11,73,192	...
" maunds	55,088	...	...	55,088
" pieces	94	...	...	94
" loads	82,060	...	...	82,060
Charcoal, maunds	4,550	...	...	4,550
Bamboos, pieces	11,942	17,335	5,393	...
Coal, tons	317	...	...	317
Stone, cubic feet	21,350	25,450	4,100	...
Grass, maunds	4,608	2,945	...	1,663
Do., loads	76,538	31,182	...	45,356

183. In the Hazara Division 157 pine and 44 other trees and 281 pieces of dry timber were sold. There was a decrease in the sale of firewood, owing to the wood in the Khanpur Range not having been disposed of.

184. In the Rawalpindi Division 1,123 pine and 151 other trees and 914 rafters were sold, showing a considerable increase under the head of pine trees; 3,29,250 cubic feet of firewood were also sold, which compares well with the previous year. There was a large increase in the sale of bamboos.

185. In the Chamba Division 229 pine trees were sold.

186. In the Beas Division 22 deodar, 7,168 pine and 959 other trees, together with 12,016 poles and dry pieces of timber, were sold. A large number of inferior pine trees were sold in view to increasing the revenue without injury to the forests. The large increase in the sale of poles and dry logs is owing to the sale of chil poles killed by forest fires. There is a slight falling off in the sale of bamboos.

187. In the Kulu Division 67 deodar trees were sold at zemindar's rates of Rs. 3 per tree. The decrease in sales is owing to the rates having been increased; 61 pine trees were also sold.

188. In the Gujranwala Division 2,13,237 cubic feet of firewood were sold.

189. In the Lahore Division 291 trees of kinds and 1,000 poles were disposed of, while 16,07,569 cubic feet of firewood and 22,93,150 cubic feet of brushwood were sold from the Rakhs.

190. In the Mooltan Division 538 trees of kinds and 13,42,905 cubic feet of firewood were disposed of and paid for, but some 6 lakhs of cubic feet had still to be removed. In the Bura Kotla reserve farash realized Rs. 2-4 and jhand Rs. 2-12 per 100 cubic feet stacked.

191. In the Montgomery Division 712 trees of kinds and 8,72,296 cubic feet of wood were disposed of for removal by purchasers, and realized Rs. 23,933.

192. 3.—Free Grants of Forest produce.

Divisions.		Trees.			Poles.	Sanatha rafters.	Total.	Value
		Deodar.	Pines.	Other.				
								Rs.
Rawalpindi.	Murree ...	...	1,514	207	38,006	...	39,727	20,988
	Kahuta ...	...	293	1,592	10,824	3,309	16,018	
Chamba ...		178	687	7	...	...	872	3,612
Bias.	Dera ...	...	3,550	...	...	...	3,550	1,750
	Nurpur ...	...	...	847	...	...	847	212
Kulu ...		67	11,237	...	...	...	11,304	27,237
Bashahr ...		285	718	43	9,023	...	10,069	4,803
Total ...		530	17,999	2,696	57,853	3,309	82,387	58,602

193. The above statement represents free grants valued at Rs. 58,602 to land-holders and the people generally, and does not include 396 pine, 2,501

other trees and 38,000 bamboos granted on favorable terms to right holders in the Bias Division. The grants under favorable terms are estimated to represent a money value of Rs. 3,300.

In all divisions, except Kulu, fair sized trees have been separated from poles. In the Rawalpindi Division there has been an apparently considerable increase in free grants; this is partially explained by the Divisional Officer's pointing out that 16,082 trees shown last year represented the free grants in the Kahuta tahsil only and did not include 15,767 given away in Murree.

In Kulu fewer grants were made; but in addition to the trees given to zemindars and not included in the statement above are 94 deodars and 274 other trees used by the Civil authorities, and also 31 deodars and 60 blue pine consumed by the Public Works Department. Timber used by the Local Funds Committee has been specially exempted from payment in Kulu, but there would seem to be no reason why free trade principles should not be applied to transactions between the Public Works Department and the Forest Department in Kulu as elsewhere, and in future payment will be demanded.

194. 4.—Summary of Produce removed from the Forests.

Description of produce.	1883-84.	1884-85.				More.	Less.
		By Govt. agency.	By purchasers.	Free grants.	Total.		
Trees and poles cut ...	*67,088	4,617	25,787	82,755	1,13,159	46,071	...
Firewood, cubic feet stacked	†76,16,238	21,11,460	67,42,641	...	88,54,101	12,37,863	...
„ maunds ...	71,962	1,185	...	...	1,185	...	70,777
„ pieces	94	1,769	...	...	1,769	1,675	...
„ loads	82,060	...	...	...	...	...	82,060
Charcoal, maunds	4,550	9,845	...	...	9,845	5,295	...
Bamboos, pieces	6,99,381	6,28,207	17,335	...	6,45,542	...	53,839
Coal, tons	317	...	...	...	...	...	317
Stone, cubic feet ...	21,350	...	25,450	...	25,450	4,100	...
Grass, maunds	4,608	...	2,945	...	2,945	...	1,663
„ loads	76,538	2	31,182	...	31,184	...	45,354

* Erroneously shown as 61,453 in last year's report.
† do. do 56,46,846 do.

195. 5.—Imports and Exports of Timber.

River by which timber was exported	Territory from which the timber came	Deodar	Pine logs	Other logs	Sleepers	Scantlings	Bamboos, &c.
Ravi ...	Kashmir ...	2,805	242	...	9,944	49,240	300
Beas ...	Mandi and Kapurthala ...	...	...	...	25,279	...	792
Sutlej ...	Native States ...	...	...	...	17,259	..	16,700
Jhelum ...	Kashmir ...	11,686	421	...	51,045	...	1,74,956
Chenab ...	Do. ...	11,706	990	...	1,69,171	...	54,217
Indus ...		...	...	10,32	...	...	...
	Total ...	26,197	1,653	10,322	2,72,698	49,240	2,46,965

The figures compare as follows with those of 1883-84:—

Description of Timber	1883-84	1884-85	More	Less
Deodar logs ...	33,246	26,197	...	7,049
Pine „ ...	3,310	1,653	...	1,657
Sleepers ...	2,96,366	2,72,698	...	23,668

Showing a decrease under all heads which can only be attributed to want of floods in the rivers.

196. In comparing the above figures with those of timber removed from the Government forests, the following results are obtained :—

	Deodar logs	Pine logs	Sleepers
Timber removed by Government Agency from forests under British control	16,406	7,129	16,055
Timber imported from Foreign Territory ...	26,197	1,653	2,72,698
Total in 1884-85 ...	42,603	8,782	2,88,753
" in 1883-84 ...	55,992	16,479	3,09,045
Increase ...	...	...	...
Decrease ...	13,389	7,697	20,292

CHAPTER V.—FINANCIAL RESULTS.

197. The financial results for the year compare as follows with those of the two previous years :—

Year.	Receipts.	Charges.	Surplus.
	Rs	Rs	Rs
1882-83	7,66,709	5,60,750	2,05,959
1883-84	9,10,177	6,53,146	2,57,031
1884-85	7,49,352	5,58,070	1,91,282

The gross revenue while less by Rs. 1,60,825 than that of the previous year, approaches that of 1882-83. The expenditure is less than that of the previous year by Rs. 95,076 ; or excluding the exceptional payment in 1883-84 of Rs. 60,000 to the Maharaja of Kashmir, by Rs. 35,076, it is almost the same as the expenditure for 1882-83.

Revenue.

Under the head of timber removed from forests by Government agency there is a decrease of more than one lakh due to sales being smaller than in the previous year by 4,000 pine logs, 50,000 narrow-gauge and 3,000 broad-gauge sleepers. Firewood and charcoal extracted by Government agency brought in Rs. 5,000 more than in the previous year, and timber extracted by purchasers shows an increase of Rs. 7,000. Firewood and charcoal removed by purchasers yielded Rs. 30,000 less than in 1883-84. The quantity actually removed shows no appreciable falling off, the difference in revenue is mainly due to advance payments received in the previous year, the firewood being measured and made over in 1884-85. Drift operations brought in Rs. 19,000 less than in 1883-84. Miscellaneous items, such as charges on floating, registration fees, &c., yielded Rs. 10,000 to Rs. 12,000 less than in 1883-84.

Expenditure.

Timber works cost Rs. 26,000 less than in the previous year, while Rs. 6,000 more were expended on the extraction of firewood. The smaller

revenue from drift and waif resulted in an expenditure less by Rs. 10,000. The expenditure on foreign timber shows a decrease of Rs. 9,000. Stores and plant cost Rs. 10,000 more than in the previous year, explained by the purchase of 1½ miles of tramway at a cost of Rs. 9,000. Some Rs. 2,000 less were spent on roads, and a similar decrease of expenditure appears under buildings. Demarcation and compensation for land and rights cost Rs. 20,000 less; while working plans cost Rs. 2,000 more; and plantations show an increased expenditure of Rs. 16,000, owing to the Changa Manga water-rate for the two years 1883-84 and 1884-85 having been disbursed during the year. Establishments cost Rs 3,000 more than in the previous year.

The value of the year's transactions was—

	Rs.
Cash surplus	1,91,282
Difference of stock in sale depôts against the year	60,526
Value of the year's transactions	1,30,756

Comparing this with the results of the two previous years—

	Rs.
1882-83	2,14,144
1883-84	2,18,457
1884-85	1,30,756

there is a decrease as compared with 1883-84 of Rs. 87,701 and of Rs. 83,388 as compared with 1882-83.

198. The following table exhibits the receipts and charges when redistributed for purposes of inter-divisional comparison :—

Divisions.	Receipts.	Charges.	Surplus.	Deficit.
Hill Divisions.	Rs.	Rs.	Rs.	Rs.
Hazara	39,353	46,594	...	7,241
Rawalpindi	37,055	38,877	...	1,822
Chamba	1,18,945	1,01,679	17,266	...
Beas	41,571	42,331	...	760
Kulu	16,265	21,975	...	5,710
Bashahr	65,671	61,311	4,360	...
Plains Divisions.				
Jhelum	45,522	40,980	4,542	...
Gujránwála	94,514	29,390	65,124	...
Lahore	1,78,449	91,079	87,370	...
Mooltan	39,588	15,892	23,696	...
Montgomery	61,175	9,252	51,923	...
Phillour	10,352	21,761	...	11,409
Direction	892	36,949	...	36,057
Total ...	7,49,352	5,58,070	1,91,282	...

199. The deficit in the Hazara Division is mainly attributable to the cost of the village forest demarcation, while the small deficit in the Rawalpindi Division is due to the payment of compensation awards. In the Chamba Division there is again a surplus, while the Beas and Kulu Divisions both show a small deficit. The Bashahr Division shows a small surplus. From the above it will be seen that of the six hill divisions only two show a small surplus, which

is accounted for by the small quantities of timber sent down to the lower depôts. The plains divisions again show a surplus; the Phillour Division only shows a small deficit.

	Receipts.		Charges.		Surplus.	Deficit.
		Rs.		Rs	Rs.	Rs.
I Departmental timber operations ...	I and III	3,65,047	I, III, V, ½ VI, ⅓ B	2,62,461	1,02,586	...
II. Other revenue ...	II, IV, V	3,84,305	II, IV, ¼ VI, IX, ⅓ B	1,12,322	2,71,983	...
III. Formation, improvement and protection of forests ...	...	...	¼ VI, VII, VIII, ⅓ B	1,83,287	...	1,83,287
TOTAL ...	...	7,49,352	...	5,58,070	1,91,282	...

200. The figures as compared with the previous year are as follows :—

	1883-84.		1884-85.	
	Surplus	Deficit.	Surplus.	Deficit.
	Rs	Rs.	Rs.	Rs.
I. Departmental timber operations ...	1,44,563	...	1,02,586	...
II. Other revenue ...	2,99,436	...	2,71,983	...
III. Protection, &c. ...	...	1,86,968	...	1,83,287
TOTAL ...	2,57,031	...	1,91,282	...

Outstandings and Liabilities of the Department.

201. The outstandings due by contractors and disbursers amounted to Rs. 53,434 at the close of the year. This total includes Rs. 14,901 standing against disbursers. Of the balance, more than Rs. 30,000 represented the cost of the Bakani slide charged off to Works since the close of the year. A decree was obtained during the year in the Civil suit, the institution of which was mentioned in last year's report as having been sanctioned by the Financial Commissioner, for the recovery of Rs. 3,400.

Outstandings on account of Revenue.

202. Outstandings on account of revenue amounted to Rs. 19,125 at the close, as against Rs. 14,062 at the commencement, of the year. Unrealized grazing dues account for Rs. 14,225, leaving Rs. 4,900 outstanding on account of timber.

H. C. HILL,

Offg. Conservator of Forests, Punjab.

STATEMENTS.

Annual Form No. 49.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Reserved Forests, 1884-85.

Division or Range.	Civil District or Territory.	Name of Forest	Area on 1st April 1884. Equivalent in Square miles	Added during the year Square miles	Excluded or transferred to other heads. Square miles	Area on 1st March 1885. Equivalent in Square miles.	No. and date of Notification of addition or transfer.	Remarks.
HAZARA.	Hazara ...	Dungagali	63	...	...	63		
		Kaghan ...	90	...	...	90		
		Siran Valley ...	33	...	...	33		
		Khanpur ...	50	...	...	50		
		Total ...	236	...	...	236		
RAWALPINDI.	Rawalpindi...	RAWALPINDI						Additions and exclusions owing to the most recent Settlement measurements.
		Margalla ...	38	9	...	47		
		Baingala ...	1	...	...	1		
		Tamaira ...	7	...	2	5		
		Maira ...	2	...	...	2		
		ATTOCK						
		Kherimar ...	6	...	2	4		
		Kawagarh ...	7	...	...	7		
		FATEHJANG						
		Khairi Murat ...	29	...	7	22		
		Kaulial	2	...	...	2		
		Gujar Khan—Bagham	12	..	3	9		
		Total ...	104	9	14	99		
CHAMBA.	Chamba ...	Darwas ...						
		Kailar ...						
		Sanoh ...	66	...	...	66		
		Purti ...						
		Tindi ...						
		Kalatope ...	4	...	...	4		
		Kainthli ...	1	...	...	1		
		Bakloh ...	2	...	...	2		
		Bannikhet ...	1	...	...	1		
		Ravi Suil and Tributaries ...	122	...	...	122		
		Total ...	196	...	...	196		
BEAS.	Hoshiarpur ...	Panjal ...	3	...	...	3	Punjab Government Notification No. 444 dated 15th Octr. 1884.	
		Lohara ..	7	...	...	7		
		Darni .	5	...	...	5		
		Karnpur ...	6	...	1	5		
		Bindraban ...	4	...	...	4		
	Amritsar ...	Gagriwal ..	1	...	...	1		
	Gurdaspur ...	Bagarian and Mullanwal ...	1	...	...	1		
	Kangra ...	Dera Range ...	17	...	.	17		
		Nurpur ,, ...	16	...	...	16		
		Total ...	60	...	1	59		
BASHAHR.	Simla ...	Neogli Range	23	...	...	23		
		Tranda ,, ..	31	.	...	31		
		Kilba ,, ...	20	...	...	20		
		Kailas ,, ...	40	...	...	40		
		Chini ,, ...	21	..	...	21		
		Pandrabis ,, ...	45	...	...	45		
		Total ...	180	...	...	180		
JHELUM.	Jhelum ...	JHELUM					Government of India letter No. 55 dated 21st Jan. 1885.	
		Salt Range ...	135	...	1	134		
		Islands on River ...	2	...	...	2		
		TALAGANG						
		Salt Range ...	42	...	...	42		
		CHAKWAL						
		Salt Range ...	22	...	...	22		
		PIND DADAN KHAN						
		Salt Range .	107	...	...	107		
		Total ...	308	...	1	307		
		Carried forward ...	1,084	9	16	1,077		

Annual Form No. 49.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Reserved Forests, 1884-85.—concluded.

Division or Range.	Civil District or Territory	Name of Forest	Area on 1st April 1884. Equivalent in square miles.	Added during the year. Square miles.	Excluded or transferred to other heads. Square miles.	Area on 1st March 1885. Equivalent in square miles.	No. and date of Notification of addition or transfer	Remarks.
		Brought forward ...	1,084	9	16	1,077		
GUJRANWALA.	Gujrat ...	Dhul ...	2	...	...	2		
		Mari ...						
		Islands on Chenab ..	2	..	...	2		
		Pabbi Forest ...	39	...	...	39		
		Phalian ...	32	...	...	32		
	Gujranwala	Gujranwala Plantation ...	2	...	...	2		
		Total ...	77	...	...	77		
LAHORE.	Lahore ...	Changa Manga	28	...	...	28		
		Shahdera ..	2	...	...	2		
		Jhok ..	4	...	...	4		
		Sadhanwali and Muzang ...	1	...	...	1		
	Amritsar ...	Amritsar Plantation ...	3	...	...	3		
		Total ...	38	...	...	38		
MOOLTAN.	Mooltan ...	Serai Sidhu ...	53	..	...	53		
		Lodhran ...	12	.	...	12		
		Mailsi ...	45	...	...	45		
		Total ..	110	...	...	110		
MONTGOMERY.	Montgomery ...	Montgomery ...	87	..	...	87		
		Total ...	87	...	..	87		
PHILLOUR.	Ludhiana ...	Jullundur Plantation ...	1	...	...	1		
		Ludhiana and Umballa ...	1	...	...	1		
		Total ...	2	..	...	2		
		GRAND TOTAL ...	1,898	9	16	1,391		
		TOTAL FOR 1883-84 ...	1,228	170	...	1,398		

Annual Form No. 49.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Protected Forests, 1884-85.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1884.	Added during the year.	Excluded or transferred to other heads.	Area on 1st March 1885.	No. and date of Notification of addition of transfer.	Remarks.
			Equivalent in square miles.	Acres.	Acres.	Equivalent in square miles.		
RAWALPINDI.	Rawalpindi ...	Kala Chitta ...	171	...	...	171		
		Total ...	171	...	...	171		
GUJRANWALA.	Gujrânwala ...	Gujranwala ...	140	...	...	140		
		Total ...	140	...	...	140		
		GRAND TOTAL ...	311	...	...	311		
		TOTAL FOR 1883-84 ...	311	...	...	311		

Annual Form No. 49.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Area of Unreserved Forests, 1884-85.

Division or Range.	Civil District or Territoy.	Name of Forest.	AREA ON 1st APRIL 1884. Equivalent in square miles.	ADDED DURING THE YEAR. Square miles.	EXCLUDED OR TRANSFERRED TO OTHER HEADS. Square miles.	AREA ON 1st MARCH 1884 Equivalent in square miles.	No. and date of Notification of addition or transfer.	REMARKS.
RAWALPINDI.	Rawalpindi ...	Various ...	374	...	...	374		
	Peshâwar ...	" ...	1	...	...	1		
		Total ...	375	...	...	375		
CHAMBA.	Gurdaspur ...	Shahpur Kandi ...	21	...	...	21		
		Total ...	21	...	...	21		
BEAS.	Hoshiarpur ...	Various ...	66	...	...	66		
	Kangra ...	" ...	460	...	...	460		
		Total ...	526	...	...	526		
BASHAHR.	Simla ...	Various ...	34	...	...	34		
		Total ...	34	...	...	34		
JHELUM.	Jhelum and Gujrat ..	Belas on Jhelum river	1	...	...	1		
	Shahpur (Khushab) ...	Salt Range rakhs ...	211	...	...	211		
		Total ...	212	...	...	212		
GUJRANWALA.	Jhang ...	Various ...	129	...	...	129		
	Gujranwála ...	" ...	96	...	...	96		
	Gujrat ..	Chenab Belas ...	8	...	...	8		35 acres excluded by river action.
	Shahpur ...	Bhera Rakhs ...	223	...	...	223		
		Total ...	456	...	...	456		
LAHORE.	Lahore ...	Rakhs in Lahore Tahsil ...	33	...	...	33	...	194 acres given in exchange of 225 acres added to Jhoke reserve.
		" in Chunian Tahsil ...	174	...	2	172	...	1,200 acres given as grant to Mirza Azam Beg.
		" in Sharkpur Tahsil ...	115	...	...	115		
		Total ...	322	...	2	320		
MOOLTAN.	Mooltan ..	Various Rakks ...	57	...	...	57		
	Muzaffarghar ...	" " ...	89	...	...	89		
	Dera Ghazi Khan,	" " ...	29	...	...	29		
		Total ...	175	...	...	175		
MONTGOMERY.	Montgomery ...	Various Rakhs ...	771	...	...	771	...	150 acres leased out by the Deputy Commissioner for term of Settlement.
		Total ...	771	...	...	771		
PHILLOUR.	Umballa ...	Kalesar ...	18	...	...	18		
	Jullundur ...	Sarangwal ...	...	...	..	...		
		Total ...	18	...	...	18		
		TOTAL ...	2,910	...	2	2,908		
		TOTAL FOR 1883-84 ...	3,155	6	251	2,910		

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1884-85.

Division.	Name of Plantation.	On 1st April 1884.		Added during 1884-85.		On 31st March 1885.		Remarks.
		Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
	Regular Plantations	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	
Kulu ...	Manali Forest garden	2	727	3	18	5	745	
	Lee Garden ...	4	1,040	...	9	4	1,049	
Bashahr ...	Sholtu ...	6	586	...	9	6	595	
Jhelum ...	Pira Ghaib ...	125	2,365	2	529	127	2,894	
Gujranwala ...	Belas Pindi Tatar & Nath	173	3,421	...	...	173	3,421	
	Bela Sadhoki ...	1	312	...	...	1	312	
	Thatta Faqirulla ...	393	3,671	...	...	393	3,671	
	Mohla ...	23	43	...	25	23	68	
	Kotli Gohan ...	...	...	8	5	8	5	
Lahore ...	Changa Manga ...	11,409	4,73,969	...	34,971	11,409	5,08,940	
	Shahdera (Jugian, &c.)	711	25,943	...	112	711	26,055	
	Jhoke and Sadhanwali	1,290	23,316	...	199	1,290	23,515	
	Nag ...	412	29,668	...	1,861	412	31,529	
	Mozang (Carob plot) ..	23	5,393	...	346	23	5,739	
Phillour ...	Jullundur ...	51	3,740	...	...	51	3,740	
	Phillour ...	220	15,098	...	183	220	15,281	
	Ludhiana ...	197	6,980	...	...	197	6,980	
	Sulathu ..	143	10,619	57	1,870	200	12,489	
	Jugadri ...	184	9,547	16	...	200	9,547	
	Total ...	15,367	6,16,438	86	40,137	15,453	6,56,575	
	For 1883-84 ...	15,324	5,92,621	43	23,817	15,367	6,16,438	
	Cultural Operations.							
Hazara ...	Changlagali ...	44	3,514	...	...	44	3,514	
	Kujagali ...	16				16		
	Kutli ...	10				10		
	Chumbi ..	...				...	...	Excluded as a failure.
	Mari ...	5				5	...	
	Sunderinar ...	...	...	...	...	...	...	Do. do.
	Malkandi ...	8	7	...	...	8	7	
	Karala ...	3	102	...	...	3	102	
	Makhanyal ...	2				2		
	Garmthan ...	...				...	...	Do. do.
	Nurseries ...	...	...	...	375	...	375	
Rawalpindi ...	Barakao ...	A 85	276	1	* 104	86	380	*Sowing Rs. 26, carriage of seed Rs. 8, Establishment Rs. 70.
	Goragali forest garden	...	12	...	30	...	42	Sowing of seed and looking after plants.
	Khairi Murat ...	B 18	1,057	12	24	30	1,081	4½ mds. seed sown.
	Athial (Banigala) ...	...	132	13	...	13	132	
	Kherimar ...	...	25	...	...	...	25	
	Chili Chara ...	...	8	7	9	7	17	Sowing phulai seed
	Sang Jani ...	...	6	...	...	...	6	
	Patriata ...	...	...	...	...	...	...	Excluded as a failure.
Chamba ...	Pangi, various ...	C 22	†1,010	...	10	22	1,029	†Rs. 1,801 excluded as failures.
	Bassu ...	149	3,329	...	15	149	3,344	
	Dhauri ...	25	106	...	39	25	145	
	Bakloh ...	...	216	...	17	...	233	
	Khirkigali ...	...	90	...	...	...	90	
	Kalatope ...	113	2,046	6	739	119	2,785	
	Kainthli ...	...	98	...	518	...	616	Nurseries.
	Chadbent and Khumi	...	71	...	9	...	80	Do.
	Majour ...	...	17	...	19	..	36	Do.
	Cherri ...	2	46	...	...	2	46	Do.
	Padri and Bohar ...	2	276	...	78	2	354	Do.
	Chatri ...	...	16	...	17	...	33	
	Carried forward ...	504	13,369	39	2,003	543	15,372	

A. B. C. } Omitted from last year's return.

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1884-85.—continued.

Division.	Name of Plantation.	On 1st April 1884.		Added during 1884-85		On 31st March 1885.		Remarks.
		Area	Cost	Area	Cost	Total Area	Total Cost	
		Acres	Rs.	Acres	Rs.	Acres	Rs.	
	Brought forward ...	504	13,360	39	2,003	543	15,372	
	Cultural Operations —*continued*							
Eas ...	Chitral ...	6	1,479	...	...	6	1,479	
	Tatal ...	7	272	25	119	32	391	
	Bindraban ...	11	118	...	...	11	118	
	Bhali ..	2	17	...	...	2	17	
	Dhamtal ..	1	72	6	28	7	100	
	Nahan ...	19	121	...	...	19	121	
	Jamoli	5	12	..	...	5	12	
	Balwal ..	5	24	...	...	5	24	
	Samlian ...	20	138	1	5	21	143	
	Tilli ..	3	150	...	...	*3	150	* 10 acres blank.
	Bajuri ..	6	42	...	...	6	42	
	Baldoa ...	7	5	...	...	7	5	
	Lohara ...	15	72	...	...	15	72	
	Badiana ..	25	13	...	...	25	13	
	Naun ...	...	...	...	...	...	...	Excluded as a failure.
	Karnpur ...	...	...	...	...	...	...	Do. do.
	Chaliar .	2	17	...	...	2	17	
	Aloh	1	8	...	...	1	8	
	Salaon ...	3	25	...	...	3	25	
	Mather ...	6	50	...	...	6	50	
	Paraneb ...	1	8	...	...	1	8	
	Bhaler ..	2	17	...	...	2	17	
	Madoli ...	3	25	...	...	3	25	
	Arroh ...	1	8	...	...	1	8	
	Choar ...	1	8	..	...	1	8	
	Bakarar ...	.	...	1	5	1	5	
	Bagarian and Mullanwal	653	5,405	...	...	*585	5,405	* 68 acres lost by river action.
	Gagriwal ...	2	79	3	14	5	93	
	Hamirpur, various ...	...	...	84	398	84	398	19 burnt patches.
Kulu ...	Dungri ...	60	2,078	...	45	** 60	2,123	Broad cast sowings.
	Manalghan ...	84	2,910	½	31	** 84	2,941	500 seedlings transplanted in vacancies 5 × 10 single trees.
	Danabial ...	30	1,039	½	34	** 30	1,073	237 Do. do. do.
	Sial Bial .	85	2,771	...	34	** 85	2,805	Maintenance.
	Manalghar ...	41	621	...	33	** 41	654	Do.
	Bal Padri ...	12	85	...	10	** 12	95	Do.
	Daindeo ...	30	51	13	69	** 30	120	37,684 seedlings transplanted 4 in 6 × 10 or 2,900 per acre.
	Chasal ...	1½	28	2½	35	4	63	Sowings.
	Do. Lower ..	...	...	4½	27	4½	27	13,024 seedlings transplanted 4 in 6 × 10 or 2,900 per acre.
	Shalingar ...	½	4	1	27	1½	31	Sowings.
	Dudlu ...	55½	1,385	2½	61	** 58	1,446	Do.
	Rahni ..	...	24	...	20	...	44	Nursery.
	Brunudhar ...	...	7	6½	65	6½	72	Do. & sowings.
	Padri Chalaon ...	9	28	..	5	9	33	Maintenance.
	Setadhag ...	...	14	.	7	...	21	Nursery.
	Somhan ...	...	4	..	3	...	7	Do.
	Batarbial ...	3	39	...	1	3	40	Maintenance.
	Deoban ...	9½	27	2	32	12	59	Sowings.
	Jangar Kalan ...	...	11	...	1	..	12	Nursery.
	Sesni Lower ...	3	7	...	13	** 3	20	Do.
	Phetaban ...	1	2	...	...	1	2	
	Ledi Chalaon ...	2	20	...	...	2	20	
	Fojal Kalan ...	...	10	...	23	...	33	Nursery.
	Shepni ..	4	34	...	26	** 4	60	Do.
	Gograsil ...	...	27	...	...	...	27	Do.
	Sandhar .	4	40	..	19	** 4	59	Do.
	Carried forward ...	1,746	32,820	192	3,193	1,856½	36,013	

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1884-85—continued.

Division.	Name of Plantation.	On 1st April 1884.		Added during 1884-85		On 31st March 1885		Remarks.
		Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
		Acres	Rs.	Acres	Rs.	Acres	Rs.	
	Brought forward ...	1,746	32,820	192	3,193	1,856½	36,013	
	Cultural Operations —*continued*							
Kulu ...	Bindraban (Sansi) ...	3	3	...	16	** 3	19	Nursery.
	Pini ...	...	...	...	13	...	13	Do.
	Bindraban, Jerri ...	24	131	2	28	** 24	159	1,862 seedlings transplanted in vacancies 5 × 10 single trees.
	Soma Chalaon ...	30½	346	12½	117	43	463	Sowings.
	Kasole ...	¼	17	...	...	¼	17	
	Phulga ...	12	312	...	18	** 12	330	Nurseries.
	Daogi ...	2	34	...	16	2	50	Do.
	Chalialadhar ..	...	16	...	24	...	40	Do.
	Latura ...	67	138	...	11	** 67	149	Maintenance.
	Blajdhar ...	9	87	3	25	** 9	112	2,310 seedlings transplanted in vacancies, 5 × 10 single trees.
	Solano ...	7	14	1½	16	** 7	30	1,200 Do. do. do.
	Bakriala ...	¼	17	...	8	¼	25	110 Do. do. do.
	Jibi ...	...	...	...	5	...	5	210 Do. do.
	Banjar ...	...	...	..	13	...	13	Nursery.
	Ragopur ...	...	17	...	14	...	31	Do.
	Pandrabis ...	...	...	...	11	...	11	Do.
	Muling ...	...	...	...	6	...	6	Do.
	Kardang ...	...	...	...	10	...	10	Do.
Bashahr ...	Nachar, East ...	72	790	12	130	84	920	Sowing in patches.
	Punang ...	24	511	10	14	34	525	Do. do.
	Sapni and Kumkumi	120	426	20	148	140	574	Do. do.
	Kunhi ...	2	64	...	18	2	82	
	Kilba ...	4	571	...	194	4	765	
	Derkali and Kashapat	1	23	...	...	1	23	
	Tranda ...	3	75	...	75	3	150	
	Guthrang ...	12	65	...	...	12	65	
	Nachar, West ...	1	46	...	12	1	58	
	Tanglang ..	8	42	...	...	8	42	
	Soongri ...	...	...	...	16	...	16	
	Ramni ...	...	...	...	2	...	2	
	Jani ...	...	...	1	56	1	56	Plants 8′ high planted out.
	Panwi ...	...	...	7	140	7	140	Sowing in patches.
Jhelum ...	Gandhala Rakh ...	3	331	10	1,250	13	1,581	Cost during year includes watering, weeding, carriage of seed.
	Ban Faquirulla ...	1	208	1	189	2	397	Cost during year includes watering.
Gujranwala ...	Pabbi ...	358	10,238	95	1,051	453	11,289	
	Chichra ...	3	106	..	37	3	143	
	Kikranwali ...	2	350	...	91	2	441	
	Chakgazi ...	5	7	...	...	5	7	
	Bhera Rakhs ...	...	...	...	...	...	...	Transferred to experiments.
	Phalian Rakhs ...	...	...	...	...	...	...	Do. do.
	Tibbi Tarar ...	2	16	...	...	2	16	
	Gujranwala Rakhs ...	...	...	3	40	3	40	
	Do. Nursery...	1	95	...	185	1	280	
Lahore ...	Kot Lakhpat ...	...	15,161	...	1,134	...	16,295	
	Experiments ...	...	...	...	...	...	...	Transferred to experiments.
	Rakh Chandra ...	..	567	...	38	...	605	
	Do. Dhig ...	...	...	...	112	...	112	
	Carried forward ...	2,523	63,644	370	8,476	2,805	72,120	

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1884-85—continued.

Division.	Name of Plantation.	On 1st April 1884.		Added during 1884-85.		On 31st March 1885.		Remarks.
		Area	Cost	Area	Cost	Total Area	Total Cost	
		Acres	Rs.	Acres	Rs.	Acres	Rs.	
	Brought forward ..	2,523	63,644	370	8,476	2,805	72,120	
	Cultural Operations —*concluded.*							
Mooltan ...	Pakka Haji Majid ...	*28	*411	...	...	28	411	* Corrected figures entered.
	Makdumpur ...	...	...	...	...	...	...	Transferred to Experiments.
	Bura Kotla ...	...	...	...	...	...	...	Do. do.
	Akil ...	...	...	...	...	...	...	Do. do.
	Vinoi ...	...	...	...	...	...	...	Do. do.
	Chak Knora ...	...	...	...	...	...	...	Do. do.
	Sharaf .	...	...	...	...	...	...	Do. do.
	Sahoki ...	...	...	...	...	...	...	Do. do.
Montgomery ..	Okara Reserve ...	*22	*558	...	...	22	558	* Corrected figures entered.
	Do. Nursery ..	...	56	...	...	...	56	
	Experiments ...	...	...	...	...	...		Transferred to Experiments.
	Mohamedpur ...	...	...	...	...	...	...	Do. do.
	Aliwal ...	...	...	...	...	..	...	Do. do.
	Kulera ...	..	...	...	...	...	...	Do. do.
Phillour ...	Kalesar ...	.	...	.	...	...	...	Do do.
	Total ...	D2,573	E. 64,669	370	8,476	F. 2,855	73,145	
	For 1883-84 ...	1,063	73,671	946	9,898	3,194	67,611	
	Experiments.							
Gujranwala ..	Bhera Rakha ...	...	8	...	...	...	...	
	Phalian „ ...	...	17	..	...	...	...	
	Jhikar Depôt ...	...	...	...	1	...	...	
Lahore ..	Experiments ...	...	882	...	...	...	...	
Mooltan ..	Makdumpur ...	...	7	...	...	...	...	
	Bura Kotla ...	...	6	...	...	...	...	
	Akil ...	...	2	...	...	...	...	
	Vinoi ...	...	6	...	...	...	...	
Montgomery ...	Experiments ...	...	41	...	...	...	...	
Phillour ...	Kalesar ..	...	32	...	...	...	...	
	Total ...	...	1,001	...	1	...		
	For 1883-84 ..	...	...	...	...	...		

D. Closing balance for 1883-84 .. ... 3,194 acres.
Deduct on account Kulu Division ...
Areas incorrectly stated 1883-84 . 648 „
2,546 „

Add on account Rawalpindi and Chamba Divisions ... ... 125 acres.
2,671 „
Deduct on account transfers to failures and experiments ... . 8 9 „
2,573 „

E. Closing balance for 1883-84 Rs. 67,611, deduct transfers to Failures and Experiments ... 2,942 = 64,669

F. Exclusive of 68 acres lost in Beas by river action and 20 acres in Kulu Division not added because previously shown.

N. B.—The total cost against the Beas Division at close of 1883-84 has been divided between the Beas an Kulu Divisions, and the area shown against Kulu *Range* at close of 1883 84 has been reduced by 648 acres and showd against the Kulu Division as opening balance for 1884-85.

Annual Form No. 50.—[*Prescribed.*]

Forest Department, Punjab.

Area of Plantations, 1884-85—concluded.

Division.	Name of Plantation.	On 1st April 1884.		Added during 1884-85.		On 31st March 1885.		Remarks.
		Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
	Failures.	Acres	Rs.	Acres	Rs.	Acres	Rs.	
Hazara ...	Chumbi ...	1½	4	...	..	...	...	
	Sunderinar .	6	2	...	...	...	...	
	Garmthan	½	6	..	..	...	...	
	Dungagali Range ..	...	...	2½	150	...	...	
	Khagan " ...	...	...	½	118	...	...	
	Khanpur " ...	...	...	½	2	...	...	
Rawalpindi ...	Patriata ..	...	40	...	14	...	...	
Chamba ...	Pangi various ...	...	1,801	...	...	...	...	
Beas ..	Tilli ...	10	...	...	...	...	...	
	Naun ...	1	4	...	...	...	...	
	Bindraban & Karnpur	1	20	..	...	...	...	
Jhelum ...	Rakh Garat ...	...	...	2	...	...	...	
Gujranwala ...	Chichra ...	...	5,304	...	...	...	...	
	Kikranwali ...	..	4,401	...	...	...	...	
	Phalian Range ...	...	17	...	...	...	...	
Lahore ...	Boali Lena Singh ...	...	30,491	...	...	...	...	
Mooltan ...	Chak Kaora ...	12	25	...	...	...	...	
	Sharaf ...	3	9	...	...	...	...	
	Sahoki ...	4	10	...	...	...	...	
Montgomery...	Mohamedpur ...	20	8	1	1	...	...	
	Aliwal ...	25	6					
	Kalera ...	14	6	1	1	...	...	
	Montgomery Range ...	...	...	3	2	...	...	
	Chichawatni ...	...	...	5	3	...	...	
	Total ...	98	42,154	15	291			
	For 1883-84 ...		40,207		6			
	Fencing.							
Rawalpindi ...	Amount erroneously charged to A. VIIId.	...	...	...	57			
Kulu ...	Amount erroneously charged to A. VIIId.	...	...	...	181			
	Total ...	...	...	...	238			
	For 1883-84 ...	...	...	..	...			
	ABSTRACT.							
	Regular plantations .	15,367	6,16,438	86	40,137	15,453	6,56,575	
	Cultural operations ...	2,573	64,869	370	8,476	2,855	73,145	
	Experiments ...	...	1,001	...	1	...	...	
	Failures ...	98	42,154	15	291	...	...	
	Fencing ...	...	...	...	238	...	...	
		A.				B.		
	Total ...	18,038	7,24,262	471	49,143	18,308	7,20,720	
	For 1883-84 ...	16,380	7,06,499	989	33,721	18,561	7,24,262	

A. Closing balance of 1883-84 .. ... 18,561 acres.
Deduct on account Kulu Division ... 648 „
17,913 „
Add on account Chamba and Rawalpindi Divisions ... ... 125 „
18,038 „

B. Exclusive of failures previous year ... 98 acres
Present year ... ... 15 „
113 „
Omitted from Beas Division ... ... 68 „
„ „ Kulu „ ... ... 20 „
201 „

Form No. 51.

Forest Department, Punjab.

Area of Forest Tracts protected from Fire during the dry season of 1885.

Division.		Forest tracts.	Up to 15th June 1884. Area actually protected.	Up to 15th June 1884. Total cost.	During dry season of 1885. Area attempted to be protected.	During dry season of 1885. Failure.	During dry season of 1885. Area actually protected.	During dry season of 1885. Amount expended.	Total cost up to 15th June.	Year in which protection commenced.	Remarks.
			Acres	Rs.	Acres	Acres	Acres	Rs.	Rs.		
Hazara	Kaagan.	Batrasi ...	...	...	1,252	...	1,252	9	9	1885	
		Maser ...	...	..	7,892	...	7,892	36	36	,,	
	Siran.	Daddur ..	...	...	801	...	801	9	9	,,	
		Bazkhan ...	...	...	1,053	...	1,053	9	9	,,	
		Tanglai ...	...	...	5,444	...	5,444	18	18	,,	
	Khanpur	Kotta ...	...	...	1,629	...	1,629	5	5	,,	
		Firozepur ...	...	...	365	...	365	2	2	,,	
		Narota ...	...	...	905	...	905	5	5	,,	
		Sangreri .	...	...	520	...	520	3	3	,,	
		Nilan Bhoto ...	...	...	2,950	...	2,950	7	7	,,	
		Rahi ...	...	...	190	...	190	1	1	,,	
		Khui ...	...	...	231	...	231	1	1	,,	
		Triman ...	...	...	392	...	392	1	1	,,	
		Chenali ...	...	...	391	...	391	1	1	,,	
		Mari ...	...	...	682	...	682	4	4	,,	
Rawalpindi ...	Murree.	Scribara Rakh ...	...	...	8,080	...	8,080	20	20	1885	
		Do. Proposed Reserve ...	...	...	2,670	...	2,670	44	44	,,	
		Patriata Do. do.	...	...	4,800	...	4,800	74	74	,,	
		Charihan Do. do.	...	...	2,110	...	2,110	1	1	,,	
		Lakot Jandala Rakh	...	...	12,934	...	12,934	54	54	,,	
		Bankaror do.	...	...	9,603	...	9,603	17	17	,,	
	Kahuta.	Narahi do.	...	...	51,293	...	51,293	46	46	,,	
		Kajliban do.	...	...	15,984	...	15,984	7	7	,,	
Chamba ..		Bakloh ...	1,280	...	1,280	...	1,280	...	...	1872	
		Bannikhet ...	537	...	537	...	537	...	...	1874	
		Kalatope ...	2,870	90	2,870	...	2,870	95	185	1871	
		Kainthli ...	644	...	644	...	644	...	...	1882	
		Shahpur Kandi ...	6,382	...	8,882	...	8,882	...	..	1882	Partially burnt in 1884.
Beas		Lohara, Jawar, Lambaseil and part of Panjal. ...	2,000	319	2,000	...	2,000	29	348	1875	
		Dhamtal ...	600	40	600	...	600	12	52	1879	
		Talara and Kalak ...	1,000	16	1,000	...	1,000	13	29	1882	
		Tatal and Mehdar ...	...	15	1,600	...	1,600	11	26	1882	
		Chitral and Jakar ..	1,700	20	1,700	...	1,700	2	22	1882	
		Bindraban ...	600	15	600	...	600	...	15	1883	
		Chabootra, Humal, Bakroh and part of Dhar Jakh ..	1,470	100	7,000	...	7,000	76	176	1884	
		Karnpur and Bindraban Bamboo Reserved Forests ...	...	...	3,000	...	3,000	... 37	37	1884	
		Mastgárh, Batoi and Swarka ...	...	...	600	...	600	13	13	1885	
		Hathi Dhar ...	...	...	1,500	...	1,500	7	7	1885	
		Bagarian and Mullanwal ...	...	...	585	50	535	7	7	1885	
Kulu ...		Sial Bial ...	...	...	85	...	85	34	34	1885	
		Somachalaon ..	...	...	260	...	260	1	1	1885	
		Carried forward ...	19,083	615	1,66,914	50	1,66,864	711	1,326	...	

Form No. 51.

Forest Department, Punjab.

Area of Forest Tracts protected from Fire during the dry season of 1885.—concluded.

Division.	Forest tracts.	Up to 15th June 1884.		During dry season of 1885.				Total cost up to 15th June	Year in which protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Failure.	Area actually protected.	Amount expended.			
		Acres.	Rs.	Acres.	Acres.	Acres.	Rs.	Rs.		
	Brought forward ...	19,083	615	1,66,914	50	1,66,864	711	1,326	...	
Mooltan ...	Shujaitpur ...									
	Jelalpur ...									
	Bet Esanwala ...									
	Makhunbela ...									
	Jalwala ...	...	...	18,138	...	18,138	73	73	1885	
	Bekaini ...									
	Derria ...									
	Dhaka ...									
Montgomery	Bibipur ...	864	69	...	...	...	...	69	1883	
	Bhagiana ...	1,470	118	...	...	...	...	118	"	
	Okara ...	4,097	188	...	...	...	...	188	"	
	Gashkori ...	4,024	20	...	...	...	...	20	"	
	Aliwal ...	1,228	16	1,228	6	1,222	4	20	1884	
	Mahomedpur ...	1,748	16	1,748	...	1,748	4	20	"	
	Kalera ...	4,561	18	4,561	...	4,561	28	46	"	
	Hurruppa ...	1,945	12	...	...	...	...	12	"	
	Dad Fatiana ...	1,072	12	...	...	...	...	12	"	
	Darsana ...	1,663	11	1,663	...	1,663	24	35	"	
	Montgomery ...	...	...	4,280	...	4,280	10	10	188	
	Syedwala ...	...	...	5,413	...	5,413	12	12	"	
Phillour ...	Kalesar ...	*1,000	801	3,000	...	3,000	194	995	1882	
	Subathu ...	225	34	225	...	225	...	34	1884	
	Jagadhri ...	...	...	200	...	200	5	5	1885	
	Total ...	42,980	1,930	2,07,370	56	2,07,314	1,065	2,995	...	
	For 1883-84 ...	...	1,205	...	...	...	586	1,930	...	

Charged in previous years	...	1,930
Do. up to 15th June	...	1,065
Total	...	2,995
For 1883-84	...	1,930

* 2,000 acres burnt over after submission of report for 1883-84.

Annual Form No. 52.—[*Prescribed.*]

Forest Department, Punjab.

Prosecutions for breaches of Forest Rules during 1884-85.

Forest Division and Civil District.	Cases pending from 1883-84.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Hazara Division														
Hazara District	22	9	40	24	1	74	96	57	130	39	53	96	192	..
Rawalpindi Division														
Rawalpindi District ...	34	8	103	36	53	200	234	123	261	95	260	218	521	16
Chamba Division														
Chamba State ...	4	7	19	4	1	31	35	21	36	6	29	27	65	8
Beas Division														
Kangra District	2	5	106	5	6	122	124	118	712	4	21	122	733	2
Hoshiarpur „ ..	..		27	...	...	27	27	24	26	3	5	27	31	..
Amritsar „ ...	...	.		1	...	1	1	1	1	..	...	1	1	..
Gurdaspur „ ...	..	.	2	...	.	2	2	2	4	...	...	2	4	...
Kulu Division														
Kangra District ...	5	23	59	6	25	113	118	90	925	10	26	100	951	18
Bashahr Division														
Bashahr State	54	13	13	1	20	47	101	27	63	23	51	50	114	51
Jhelum Division														
Jhelum District ...	1	...	59	30	19	108	109	77	151	26	81	103	232	6
Shahpur „ ...	...	...	21	...	11	32	32	21	41	5	6	26	47	6
Gujrat „ ...	...	.	3	1	2	6	6	3	8	3	14	6	22	...
Rawalpindi „ ...	...	..	2	..	1	3	3	2	2	1	2	3	4	..
Cashmere Territory ...	...	...	1	...	1	2	2	2	3	...	...	2	3	..
Gujranwala Division														
Gujrat District ...	3	..	55	11	2	68	71	56	136	13	26	69	162	2
Gujranwala „ ...	1		23	...	...	23	24	22	43	1	5	23	48	1
Shahpur „ ...	...	1	8	..	...	9	9	4	7	4	23	8	30	1
Jhang „ ...	...	...	1	...	...	1	1	1	1	...	...	1	1	...
Sialkot „ ...	2	...	3	...	...	3	5	1	1	2	5	3	6	2
Lahore Division														
Lahore District ...	...	...	8	5	1	14	14	14	41	...	...	14	41	...
Amritsar „ ...	..	...	1	...	...	1	1	1	3	...	...	1	3	.
Mooltan Division														
Mooltan District ...	2	.	6	13	3	22	24	19	38	5	7	24	45	...
Muzaffargarh „ ...	1	5	1	6	...	12	13	2	3	6	24	8	27	5
D. G. Khan „ ...	2	4	3	3	...	10	12	10	34	...	7	10	41	2
Montgomery Division														
Montgomery District ...	6	1	29	44	46	120	126	74	111	11	79	85	190	41
Phillour Division														
Jullundur District ...	...	..	1	.	.	1	1	1	2	..	...	1	2	...
Hoshiarpur „ ...	...	..	..	.	1	1	1	1	1	...	...	1	1	...
Umballa „ ...	...	...	1	...	1	2	2	2	12	...	6	2	18	.
Simla „ .	...		16	2	1	19	19	13	15	4	4	17	19	2
Total ..	139	76	611	192	195	1,074	1,213	789	2,820	261	734	1,050	3,554	163
For 1883-84 ..	106	126	437	193	212	968	1,074	722	2,844	213	648	935	3,492	139

Annual Form No. 53.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Summary of Revenue of the different Divisions, 1884-85.

BUDGET HEADS RECEIPTS.	Direction.	Hazara Division.	Rawalpindi Division.	Chamba Division.	Beas Division.	Kulu Division.	Bashahr Division.	Jhelum Division.	Gujranwala Division.	Lahore Division.	Mooltan Division.	Montgomery Division.	Phillour Division.	Total.
	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY:—														
a. Timber	...	2,768 7 9	33 0 0	65,176 8 8	15,649 15 3	145 3 9	499 14 7	24,919 2 8	45,996 12 1	618 12 0	4 0 0	...	64,420 8 6	2,21,223 6 3
b. Firewood and Charcoal	...	409 3 8	10,949 4 9	2,037 13 0	1 9 0	...	...	206 2 9	259 10 6	90,032 0 10	238 11 2	...	499 13 1	94,654 4 8
c. Bamboos	...	...	312 3 0	...	11,762 8 0	...	...	...	...	...	...	...	225 15 9	12,300 11 3
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other Minor Produce	...	...	85 5 3	...	...	...	...	...	1 5 0	...	...	...	...	86 10 3
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS:—														
a. Timber	...	1,090 6 8	8,278 12 5	894 12 0	18,279 0 4	263 11 0	...	...	...	1,163 2 0	160 14 0	54 9 0	1 8 0	30,186 11 5
b. Firewood and Charcoal	...	1,806 4 2	8,578 2 3	16 7 0	...	...	...	1,324 13 3	6,214 11 5	52,950 1 2	30,230 12 0	26,529 9 1	160 7 0	1,27,845 5 1
c. Bamboos	...	...	335 15 0	...	38 0 0	...	...	...	...	...	...	...	22 6 0	401 11 0
d. Grazing and Fodder Grass	...	5,286 9 0	4,844 3 7	27 4 0	5,018 6 2	100 6 1	...	12,368 10 0	83,963 13 6	40,655 7 0	7,194 11 9	31,220 9 3	3,200 2 6	1,95,536 2 6
e. Other Minor Produce	...	161 5 6	620 14 11	17 8 0	59 11 0	...	...	186 14 0	274 11 6	2,302 3 0	421 4 0	1,757 11 1	...	5,705 3 0
III.—CONFISCATED DRIFT AND WAIF WOOD	...	...	902 6 0	10 15 3	1,060 15 3	23 3 3	...	28,840 1 7	2,192 7 7	...	13 8 0	...	3,744 12 0	36,795 4 11
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT:—														
a. Duty on Foreign Timber and other Forests Produce	...	...	...	...	...	...	...	...	...	...	...	...	...	...
b. Revenue from Shared and Private Forests	...	883 2 0	...	...	1,818 13 11	...	...	...	...	...	...	...	...	2,701 15 11
V.—MISCELLANEOUS:—														
a. Fines and Forfeitures	...	687 0 0	82 4 3	223 4 0	411 1 0	2 3 0	25 1 10	...	4 2 3	...	50 0 0	...	29 0 0	1,483 0 10
b. Refunds	891 11 0	3 8 0	1 0 5	971 10 0	2 4 0	...	...	1 9 0	3 5 0	...	...	...	164 0 0	2,068 15 11
c. Other sources	...	133 4 1	2,155 3 11	3,312 7 8	2,534 6 1	89 2 0	...	1,790 11 3	1,860 6 11	727 3 6	1,215 9 0	1,607 1 2	2,916 8 8	15,372 0 6
TOTAL RECEIPTS	891 11 0	14,228 3 4	37,054 13 3	72,688 10 1	57,212 0 0	623 13 9	525 0 5	70,647 0 9	1,40,771 7 0	1,78,448 13 6	39,585 5 11	61,175 6 7	75,407 3 0	7,40,352 7 6
FOR 1883-84	29 0 0	29,887 7 3	49,340 2 4	81,571 10 6	83,154 14 0	...	888 11 7	1,33,994 14 2	1,42,229 1 2	1,50,098 2 9	1,24,339 5 0	...	1,14,043 10 6	9,10,176 15 6

CALCUTTA,

The 18*th June* 1885 :

W. H. EGERTON,

Assist. Comptroller General (Forests).

Annual Form No. 53—[*Prescribed*].

Forest Department, Punjab.

Summary of Expenditure of the different Divisions, 1884-85.

Budget Heads.	Direction.	Hazara Division.	Rawalpindi Division.	Chamba Division.	Beas Division.	Kulu Division.	Bashahr Division.	Jhelum Division.	Gujranwala Division.	Lahore Division.	Mooltan Division.	Montgomery Division.	Phillour Division.	Total.
A.—CONSERVANCY AND WORKS.	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P
I.—Timber and other produce removed from the forests by Government agency:—														
a. Timber	...	6,540 4 0	45 9 4	34,167 0 5	2,996 8 6	6,709 15 8	11,937 0 1	3,996 14 4	4,234 0 3	7 14 0	...	...	10,021 4 3	60,064 7 4
b. Firewood and Charcoal	...	295 12 1	6,337 14 6	302 12 0	...	...	...	20 9 0	81 4 0	16,157 1 10	404 7 1	...	25 6 0	23,353 2 6
c. Bamboos	...	...	...	...	2,394 4 1	...	...	...	...	...	...	...	7 15 10	2,402 3 11
d. Sandal-wood	...	...	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	...	...	39 2 8	...	...	...	...	...	14 9 6	...	...	...	...	53 12 2
II.—Timber and other produce removed from the forests by consumers or purchasers	...	157 5 0	1,229 5 8	350 0 0	0 4 3	...	...	...	192 14 0	75 1 5	72 14 9	24 12 6	0 2 0	2,102 11 1
III.—Confiscated, drift and waif wood	...	...	703 9 6	...	196 2 9	...	...	8,204 6 0	591 14 1	...	...	...	...	9,695 10 4
IV.—Revenue from forests not managed by Government:—														
a. Duty on foreign timber and other forest Produce	...	...	21 11 0	...	74 5 0	...	...	398 12 1	676 12 4	...	...	...	913 15 5	2,079 7 10
b. Revenue from shared and private forests	...	...	...	...	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government.	...	616 6 2	...	21,000 0 0	5,442 3 3	54 11 0	10,000 0 0	...	...	...	...	...	910 0 0	38,027 4 5
VI.—Live Stock, Stores, Tools and Plant:—														
a. Purchase of Cattle	...	...	...	...	...	...	...	...	...	...	...	...	...	...
b. Feed and keep of Cattle	8 0 4	...	...	...	...	...	...	...	153 10 9	148 6 7	102 6 0	...	135 6 11	544 13 7
c. Stores, Tools and Plant	808 1 0	50 3 0	235 7 3	398 3 3	44 11 0	64 14 0	575 3 3	816 0 8	88 14 6	9,268 9 0	137 3 0	710 5 3	151 11 3	13,354 6 9
VII.—Communications and Buildings:—														
a. Roads and Bridges	...	140 10 9	182 4 1	453 14 0	43 5 0	84 14 0	3,186 14 2	53 5 0	8 5 0	...	5 1 0	...	113 11 3	4,272 5 2
b. Buildings	12 4 0	365 0 1	220 4 7	1,273 10 0	442 9 0	399 12 9	2,308 1 6	533 3 10	301 5 9	128 13 8	149 4 0	37 8 0	336 1 11	6,507 15 2
c. Other Works	...	...	16 5 2	...	...	...	...	12 6 0	...	...	...	...	...	28 11 3
VIII—Demarcation, improvement and extension of forests:—														
a. Demarcation	...	391 5 0	2,760 12 2	27 12 0	718 13 1	390 12 6	164 8 9	1,902 13 9	1,206 13 2	74 6 0	441 11 3	306 14 10	...	8,395 11 2
b. Compensation for Land and Rights	...	...	4,400 0 3	...	...	87 10 3	...	500 0 0	700 0 0	...	...	...	...	5,241 0 6
c. Surveys and Working-Plans	202 3 0	...	85 14 0	1,087 10 5	...	...	97 5 0	27 1 6	...	22 8 0	61 13 6	7 11 9	123 6 11	1,962 4 1
d. Plantations	...	645 5 9	224 14 2	1,460 15 4	560 9 1	1,180 6 3	814 7 6	1,968 0 0	1,435 8 2	38,773 1 5	...	16 6 0	2,089 1 7	49,143 11 7
e. Protection from Fire	...	...	231 9 0	94 7 0	162 4 0	...	16 13 3	...	...	...	67 13 5	67 11 0	295 7 0	926 0 8
f. Other Works	31 2 0	35 11 0	32 1 2	22 5 0	12 1 6	...	...	302 10 4	218 14 9	50 11 8	373 1 9	560 14 2	371 4 0	2,010 13 11

| | | |

Annual Form No. 54.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Account Current for the year 1884-85.

Dr.

To Cash Balance on 1st April 1884		...	...	...	2 967	1 7
„ *Revenue as per Annual Summary (Form 53)*		...	.		7,49,352	7 6
„ *Service Funds*—						
Military Fund (Bengal)		60	12	0		
Do (Madras)		1,032	15	0		
Military Orphan Fund (Bengal)		52	8	0		
U S F. P Fund (Bengal)		2,404	14	0		
					3 551	1 0
„ *Deposits*		.			2,158	12 0
„ *Forest Cash Remittance (Local)*						
Forest Cheques drawn		5,59 720	3	7		
Inter Divisional Transfers		7,441	0	9		
					5 67,161	4 4
„ *Advances Recoverable*		..	.	..	2,76 477	
„ *Suspense*		.			2,470	3 11
„ *Account Current (other Governments)*						
Government of India		4.103	7	1		
„ North Western Provinces and Oudh .		8,828	12	0		
„ Bengal		.	9	10		
					12,932	12 11
„ *Inter Departmental Transfers*—						
Public Works Department other Branches		15,350	2	2		
Military Department, Bengal		62	12	6		
„ *Civil Department*—						
Jail	680 0-3					
Mathematical Instrument Depôt ...	965 4-0					
English Store Suspense Account ...	83 7-0	1,728	11	3		
					17 141	9 11
TOTAL ...		...			16 34 212	5 2
FOR 1884-85 ...		...			19 52,772	0 7

Cr.

By Expenditure as per Annual Summary (Form 53) . ..	...		...	5 58,070	5 0
„ *Deposits*	...		..	3,382	7 0
„ *Forest Cash Remittance (Local)*—					
Remittances to Treasuries . .	6,56 205	4	8		
Inter-Divisional Transfers	7,441	0	9		
				6,63 646	5 5
„ *Advances Recoverable*	..		–	2,98,317	13 8
„ *Suspense*	..			2,673	6 7
„ *Account Current, other Governments*—					
Government of India	839	6	10		
„ North-Western Provinces and Oudh	15	5	6		
„ Central Provinces	250	0	0		
				1,104	12 4
„ *Inter-Departemental Transfers*—					
Public Works Department, Punjab Northern State Railway	86,955	8	0		
„ „ „ Rewari and Ferozepur ...	4	0	0		
„ „ „ Other Branches . ..	11,818	14	7		
Military Department, Bengal . .	1,040	3	6		
Civil Department, Miscellaneous	1,728	3	8		
				1,01,546	13 9
„ *Cash Balance on 31st March* 1885	.			5,470	5 5
TOTAL	...			16 34 212	5 2
FOR 1883-84			...	19,52,772	0 7

CALCUTTA :

The 18*th June* 1885.

W. H. EGERTON,
Assist. Comptroller General (Forests).

Annual Form No. 55.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Outstandings and Liabilities on account of Contractors and Disbursers for 1884-85.

Division.	Department Debtor. At commencement of year.	Department Debtor. Recoveries in cash and value of supplies and work done during the year.	Department Debtor. At close of year.	Department Creditor. At commencement of year.	Department Creditor. Payments made during year.	Department Creditor. At close of year.	Balance. To Department (Outstandings.)	Balance. By Department (Liabilities.)
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Direction ...	...	9,030 6 0	9,030 6 0	920 13 3	8,441 1 0	9,361 14 3	331 8 3	...
Hazara ...	...	7,303 7 9	7,303 7 9	0 4 0	7,747 10 7	7,747 14 7	444 6 10	...
Rawalpindi ...	...	18,078 11 2	18,078 11 2	1,370 4 11	16,799 0 1	18,169 5 0	90 9 10	...
Chamba ...	...	58,716 11 10	58,716 11 10	29,209 0 8	79,745 7 2	99,954 7 10	41,237 12 0	...
Beas ...	...	46,138 9 4	46,138 9 4	2,738 8 10	47,216 13 3	49,955 0 1	3,816 12 9	...
Kulu ...	...	9,769 7 2	9,769 7 2	...	10,279 15 8	10,279 15 8	510 8 6	...
Bashahr ...	...	10,546 9 5	10,546 9 5	4,139 11 2	11,538 8 10	15,678 4 0	5,131 10 7	...
Jhelum ...	...	40,246 11 5	40,246 11 5	741 2 1	40,071 7 9	40,812 9 10	565 14 5	...
Gujranwala ...	...	9,194 4 1	9,194 4 1	430 5 8	9,322 3 6	9,752 9 2	558 5 1	...
Lahore ...	...	40,664 15 6	40,664 15 6	462 7 4	40,303 13 3	40,766 4 11	101 5 5	...
Mooltan ...	...	6,832 12 7	6,832 12 7	211 2 7	6,797 15 11	7,009 2 6	176 5 11	...
Montgomery ...	...	3,986 10 9	3,986 10 9	...	4,058 1 7	4,058 1 7	71 6 10	...
Phillour ...	...	15,967 11 0	15,967 11 0	369 3 11	15,995 11 1	16,364 15 0	397 4 0	...
Total ...	...	2,76,477 0 0	2,76,477 0 0	31,593 0 9	2,98,317 13 8	3,29,910 14 5	53,433 14 5	
For 1883-84 ...	...	3,44,058 15 4	3,44,058 15 4	20,814 12 10	3,55,737 3 3	3,76,552 0 1	31,503 0 9	

Annual Form No. 56.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Revenue received and Outstandings on account of Revenue during 1884-85.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Direction ...	...	...	891 11 0	891 11 0	891 11 0	...	
Hazara ...	...	140 15 6	14,093 3 10	14,234 8 4	14,228 3 4	6 0 0	
Rawalpindi,	...	...	37,482 12 1	37,482 12 1	37,054 12 3	427 15 10	
Chamba ...	...	3,876 0 0	72,688 10 1	76,564 10 1	(a) 74,056 10 1	2,508 0 0	(a) Rs. 1,308-0-0- Remitted by Conservator, vide his No. 1,921, dated 22nd March 1884.
Beas ...	...	10 0 0	58,647 2 0	58,657 2 0	(b) 57,218 0 0	1,439 2 0	(b) „ 6-0-0- Written off vide Commissioner's No. 605, dated 25th July 1884.
Kulu ...	...	...	623 13 9	623 13 9	623 13 9	...	
Bashahr ...	...	147 13 2	1,334 11 4	1,482 8 6	(c) 672 13 7	809 10 11	(c) „ 147-13-2- Written off under Punjab Govt. No. 184, dated 17th April 1885.
Jhelum ...	...	2,083 6 4	69,567 10 5	71,651 0 9	(d) 71,330 6 0	320 10 9	(d) „ 683-5-4- Written off under sanction of the Commissioner and Superintendent, Rawalpindi Division, No. 2724, dated 16th July 1884.
Gujranwala,	...	4,133 10 2	1,45,873 14 6	1,50,007 8 8	(e) 1,42,509 0 9	7,498 7 11	(e) „ 317-9-9- Do. do. No. 97, dated 7th Jany. 1885.
							„ 1,420-6-0- Do. Punjab Govt. No. 281, dated 11th June 1884.
Lahore ...	...	2,338 1 3	1,77,489 4 3	1,79,823 1 6	1,78,448 13 6	1,374 4 0	
Mooltan ...	...	20 10 ...	39,588 5 11	39,608 15 11	(f) 39,608 15 11	...	(f) „ 20-10-0- Written off under Comptroller-General's No. 1157, dated 27th August 1884.
Montgomery,	...	1,315 13 6	65,914 15 3	67,230 12 9	(g) 62,489 14 0	4,740 14 9	(g) „ 373-8-11- Do. by Comptroller-General on Divisional Officer's explanation No. 110, dated 16th March 1885.
							„ 940-14-6- Do. Punjab Govt. No. 190, dated 18th April 1885.
Phillour ...	...	0 8 7	75,496 10 5	75,497 3 0	75,497 3 0	...	5,277-13-8
TOTAL ...	...	14,062 10 6	7,59,692 12 10	7,73,755 7 4	(h) 7,54,630 5 2	19,125 2 2	(h) Revenue as per Form No. 35 ... Rs. 7,49,352-7-6 Amount written off under sanction .. Rs. 5,277-13-8. 7,54,630-5-2
FOR 1883-84 ...	...	19,292 3 6	9,08,224 2 9	9,27,516 6 3	9,13,453 11 9	14,062 10 6	

CALCUTTA:

The 18*th June* 1885.

W. H. EGERTON,

Assist. Comptroller General (Forests)

Annual Form No. 57.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Financial results of the year 1884-85.

DIVISION.	*Timber and other produce removed from the forests by Government Agency.*		*Other revenue.*		*Formation, protection and improvement of forests.*	*Total.*		REMARKS.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Hazara ...	4,178	18,472	10,050	11,521	12,584	14,228	42,577	
Rawalpindi ...	12,282	14,733	24,773	8,839	15,305	37,055	38,877	
Chamba ...	67,225	67,329	5,464	13,168	16,652	72,689	97,349	
Beas ...	28,465	21,783	28,747	10,849	12,694	57,212	45,326	
Kulu ...	168	10,147	456	3,376	5,457	624	18,980	
Bashahr ...	500	20,459	25	7,831	13,966	525	51,256	
Jhelum ...	53,974	21,260	16,673	9,357	14,380	70,647	44,997	
Gujranwala .	48,450	12,895	92,321	9,041	11,784	1,40,771	33,720	
Lahore ...	80,651	29,261	97,798	12,024	49,794	1,78,449	91,079	
Mooltan ...	263	5,205	39,325	4,847	5,840	39,588	15,892	
Montgomery ...	...	2,855	61,175	2,729	3,668	61,175	9,252	
Phillour ...	68,891	16,559	6,606	6,440	8,817	75,497	31,816	
TOTAL ...	3,65,047	2,50,158	3,83,413	1,00,022	1,70,941	7,48,460	5,21,121	
Direction ...	...	12,303	892	12,300	12,346	892	36,949	
TOTAL .	3,65,047	2,62,461	3,84,305	1,12,322	1,83,287	7,49,352	5,58,070	
For 1883-84 ...	4,91,404	3,46,841	4,18,773	1,19,337	1,86,968	9,10,177	6,53,146	

Annual Form No. 58.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Trees felled by Government Agency during the year 1884-85.

DIVISION.	*Trees felled.*		REMARKS.
	Description.	Number.	
HAZARA ...	Biar	52	
	Paludar	11	
	Total ...	63	
CHAMBA ...	Deodar	1,680	
	Pine	426	
	Tos	11	
	Rai	36	
	Total ...	2,153	
KULU ...	Deodar	383	
	Total ...	383	
BASHAHR	Deodar, green	1,154	
	" dry	762	
	Blue Pine	102	
	Total ...	2,018	
	ABSTRACT.		
	Deodar	3,979	
	Biar	52	
	Paludar	11	
	Pine	426	
	Tos	11	
	Rai	36	
	Blue Pine	102	
	Total ...	4,617	
	For 1883-84 ...	5,585	

Annual Form No. 59.—[*Suggested.*]

Forest Department, Punjab.

Outturn of Timber and other produce cut and collected by Government Agency during the year 1884-85.

Division.	Produce cut and collected.				Remarks.
	How obtained.	Description.	Number or quantity.	Cubic feet.	
Hazara ...	Selection fellings ..	Biar scantlings ...	2,990	3,417	
		Paludar " ...	71	190	
		Biar shingles ...	52,335	...	
		Paludar " ...	72,875	...	
	Wind falls ..	Biar scantlings ...	29	32	
		Paludar " ..	236	400	
		Biar shingles ...	16,500	..	
		Paludar " ..	50,425	...	
		Firewood ..	1,124	...	Maunds.
		Charcoal ...	90	...	"
		Total ...	1,96,675	4,039	
Rawalpindi ...	Selection fellings...	Planks .	63	...	
		Scantlings ..	54	...	
		Firewood ..	113	...	Maunds.
	Conversion .	" ...	.	6,397	
		Charcoal ...	9,835	...	"
		Grass ...	219	...	"
		Total ...	10,284	6,397	
Chamba ...	Selection fellings...	Deodar logs ..	6,911	...	
		Pine " ...	1,966	...	
		Broad-gauge sleepers ..	6,744	...	
		Deodar scantlings ..	3,682	4,389	
		Tos " ...	5,228	5,618	
		Rai " ...	2,208	1,892	
		Chil " ...	166	165	
		Kail " ...	8	16	
	Wind-falls ...	Deodar logs ...	430	..	
		Pine " ..	89	...	
		Total ...	27,432	12,080	
Beas ...	Clearances	Deodar logs ..	13	442	
		Pine " ...	3	60	
		Deodar scantlings ...	3	12	
		Scraps and pieces ...	172	860	
		Hard wood ...	10	40	
		Total ...	201	1,414	
	Selection fellings ...	Bamboos ...	6,22,850	...	
Kulu ...	Selection fellings .	Deodar logs ...	144	7,488	
		Broad-gauge sleepers ..	7,664	.	
		Narrow-gauge " ...	2,068	...	
	Clearances ...	Deodar logs ..	447	...	
		Broad-gauge sleepers ...	87	...	
		Narrow-gauge " ...	71	...	
	Confiscated ..	Scraps and pieces ...	203	...	
		Total ..	10,684	7,488	
Bashahr ...	Selection fellings...	Deodar logs ...	4,079	...	
		" " ...	1,180	...	
		Blue pine " ...	364	...	
		Total .	5,623	...	
Lahore ...	Clear cuttings ...	Firewoood ...	...	14,83,250	
	Thinnings ...	" ...	...	2,00,562	
	" .	Sissu poles ...	450	...	
		Total ...	450	16,83,812	

Annual Form No. 59.—[*Suggested*].

FOREST DEPARTMENT, PUNJAB.

Outturn of Timber and other produce cut and collected by Government Agency during the year 1884-85.—concluded.

DIVISION.	*Produce cut and collected.* How obtained.	Description.	Number or quantity.	Cubic feet.	REMARKS.
MOOLTAN ...	Selection fellings	Rafters ...	3,150	...	Collected during 1883-84
		Firewood ...	...	81,183	
		Do. ..	..	54,390	Ditto.
		Total .	3,150	1,35,573	
MONTGOMERY ...	...	Firewood ...	...	5,500	
		Do. ...	...	1,17,300	Collected during 1883-84.
		Total ...	.	1,22,800	
PHILLOUR ...	Waif ...	Deodar logs	2	..	
	Clearances ...	Ballas ...	293	.	
	...	Sal Tors ..	441		
	...	Firewood ...	...	9,250	
		Total ...	736	9,250	
		ABSTRACT.			
		Deodar logs ...	13,206	7,930	
		Pine " ...	2,422	60	
		Broad-gauge Sleepers ...	14,495	...	
		Narrow-gauge " ...	2,139	...	
		Deodar scantlings ...	3,685	4,401	
		Tos " .	5,228	5,618	
		Rai " ...	2,208	1,892	
		Chil " ...	166	165	
		Kail " ...	8	16	
		Biar " ...	3,019	3,449	
		Paludar " ...	307	590	
		Other " ...	54	...	
		Planks ...	63	...	
		Sissu Poles ...	450	...	
		Sal Tors ...	441	...	
		Ballas ...	293	..	
		Rafters ...	3,150	...	
		Scraps and pieces ...	375	860	
		Hardwood	10	40	
		Total Timber ..	51,719	25,021	
		For 1883-84 ...	64,307	81,256	
		coal ...	9,925	...	Mds.
		Firewood ...	1,237	.	"
		Do. ...		19,57,832	
		Shingles ..	1,92,135	. .	
		Grass ...	219	...	Mds.
		Bamboos ...	6,22,850	...	
	For 1883-84 ...	Charcoal ...	10,226	...	Mds.
		Firewood ...	100	..	"
		Do. .		21,03,718	
		Shingles ...	1,77,108	. .	
		Bamboos ...	6,78,303	...	

Annual Form No. 60.—[*Suggested*].

Forest Department, Punjab.

Timber and other Produce received from Forests in Sale Depôts during the year 1884-85.

Division.	Depôt or Locality.	Produce Received. Description	Number or quantity.	Cubic feet	Remarks.
Rawalpindi ...	Murree ...	Charcoal ..	9,737	...	Mds.
		Total Charcoal	9,737	...	Mds.
Chamba ...	Shahdera ..	Deodar logs ..	1,014	23,028	
		Pine " ..	151	3,064	
		Broad-gauge sleepers	10,058	33,538	
		Narrow gauge "	54	71	
		Scraps and pieces ..	305	300	
	Shahpur ..	Deodar logs ...	667	12,889	
		Pine " ...	198	3,087	
	Kalatope ...	Deodar scantlings ..	3,682	4,389	
		Tos " ...	5,228	5,618	
		Rai " ...	2,208	1,892	
		Kail " ...	8	17	
		Chil " ...	166	165	
		Total Timber ..	23,739	88,008	
	Shahdera ...	Firewood ...	.	480	
	Shahpur ...	" ...	...	14,400	
		Total Firewood ...	...	14,880	
Beas ..	Wazir Bholer ...	Deodar logs ...	534	14,217	
		Pine " ...	78	1,515	
		Broad gauge sleepers ...	33	114	
		Narrow " " .	1	1	
		Other scantlings .	14	66	
		Waste wood .	1,401	...	
		Drift and waif wood ...	1,164	244	
		Scraps ..	1	..	
	Nadaon ...	Deodar logs ..	841	33,571	
		Pine " .	25	517	
		Broad gauge sleepers ..	29	101	
		Narrow " " ..	1	1	
		Other scantl ngs ..	12	35	
		Waste wood ...	49	...	
		Drift and waif wood ...	112	...	
		Scraps ..	7	...	
	Noushera ...	Deodar logs ...	11	381	
		Waste wood	3	..	
		Drift and waif wood ...	215	...	
		Total Timber ...	4,531	50,763	
	Wazir Bholer ...	Firewood ...	50	...	Pieces.
	Wazir Bholer ..	Bamboos ...	131	...	Pieces.
	Pandian ...	Do. ...	5,43,325	...	"
	Dhamtal ...	Do. ..	79,525	...	"
		Total Firewood ...	50	...	
		Total Bamboos ...	6,22,981	...	

Annual Form No. 60.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce received from Forests in Sale Depôts during the year 1884-85.

DIVISION.	Depôt.	Produce received. Description.	Number or quantity.	Cubic feet.	REMARKS.
BASHAHR ...	Suni ...	Deodar logs ...	2	32	
		Box wood ...	24	...	
		Scraps and pieces ...	769	293	
		Total timber ...	795	325	
JHELUM ...	Jhelum ...	Deodar logs .	2,593	66,107	
		Pine " ...	2,164	35,637	
		Waste wood .	1,826	8,767	
		Other scantlings .	871	...	
	Chak Nizam ...	Deodar logs ..	907	24,471	
		Pine " ..	1,875	31,709	
		Narrow-gauge sleepers ..	25	75	
		Waste wood .	467	2,871	
		Other scantlings ...	76	77	
	Khushab ...	Deodar logs	499	9,569	
		Pine "	1,084	19,534	
		Waste wood ..	324	2,178	
	Trimmu ...	Deodar logs ...	572	9,509	
		Pine " ..	1,197	16,109	
		Waste wood ..	578	...	
		Total timber ...	15,058	2,26,613	
	Chak Nizam ...	Kikar ...	560	...	Mds.
GUJRANWALA ...	Jhikar ...	Deodar logs ...	3,534	55,995	
		Pine " ..	26	403	
		Broad-gauge sleepers ...	163	561	
		Scraps and pieces ...	168	418	
	Mooltan ...	Deodar logs ...	1	8	
		Total timber ...	3,892	57,385	
LAHORE ...	Changa Manga ...	Sissu poles ...	450	...	
		Total timber ...	450	...	
	Ditto ...	Firewood ...	...	12,59,100	
	Jhoke ...	Ditto ...	...	40,935	
	Shahdera ...	Ditto ...	...	2,84,000	
		Total Firewood ...	...	15,84,035	

Annual Form No. 60.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Timber and other Produce received from Forests in Sale Depôts during the year 1884-85.

DIVISION.	Depôt.	Produce received. Description.	Number or quantity.	Cubic feet.	REMARKS.
PHILLOUR ...	Phillour ...	Deodar logs ...	5,229	1,06,590	
		Pine " .	331	4,550	
		Narrow-gauge sleepers ...	3,433	.	
		Scraps and pieces ..	1,376	.	
	Rupar ...	Deodar logs .	2	123	
		Box wood logs ...	24	...	
		Narrow-gauge sleepers .	2,258	3,387	
		Scraps and pieces ...	370	716	
		Total Timber ...	13,023	1,15,366	
	Rupar ...	Slabs ...	121	...	Mds.
	Phillour ...	Firewood ...	446		Pieces.
	Rupar ...	" ...	46	.	"
		Total Firewood ...	492	...	
	Phillour ..	Bamboos	4,068	...	
	Rupar ...	" ...	135	..	
		Total Bamboos ...	4,203	...	
		ABSTRACT.			
		Deodar logs ...	16,406	3,56,440	
		Pine " ...	7,129	1,16,125	
		Broad-gauge sleepers ...	10,283	34,314	
		Narrow " " ...	5,772	3,535	
		Deodar scantlings ..	3,682	4,389	
		Toa " ...	5,228	5,618	
		Rai " ...	2,208	1,892	
		Kail " ...	8	17	
		Chil " ..	166	165	
		Other " ...	973	178	
		Drift and waif wood ...	1,491	244	
		Scraps and pieces ...	2,996	1,727	
		Waste wood ...	4,648	13,816	
		Box wood ...	48	...	
		Sissu poles ...	450	...	
		Total Timber	61,488	5,38,460	
		Total for 1883-84 ..	94,209	10,31,098	
		Kikar ...	560	...	Mds.
		Slabs ...	121	...	"
		Charcoal ...	9,737		Mds.
		Firewood ...	...	15,98,915	C.ft.
		" ...	542	..	Pieces.
		Bamboos ...	6,27,184	...	"
	For 1883-84 ...	Firewood ...	4,109	...	Mds.
		" ...	1,623	21,18,099	C.ft.
		Charcoal ...	8,944	...	Mds.
		Bamboos ...	6,83,204	...	Pieces.

Annual Form No. 61.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1884-85.

DIVISION.	Depôt or Locality.	PRODUCE SOLD. Description.	Number or quantity.	Cubic feet.	REMARKS.
		Sold from Depots.			
RAWALPINDI ...	Rawalpindi ..	Bamboos ...	3,286	...	Pieces.
	Murree ...	Charcoal ...	9,660	...	Mds.
CHAMBA ...	Shahdera ...	Deodor logs ...	1,014	23,028	
		Pine do. ...	151	3,064	
		Broad gauge sleepers ...	10,058	33,538	
		Narrow-gauge do. ...	3,245	4,858	
		Scraps and pieces ...	305	300	
		Firewood ...	...	480	
	Shahpur ...	Deodar logs ...	667	12,839	
		Pine do. ...	198	3,087	
		Firewood ...	...	14,400	
	Kalatope ...	Broad-gauge sleepers ...	10	35	
		Deodar scantlings ...	2,168	2,706	
		Tos do. ...	4,398	4,879	
		Rai do. ...	1,835	1,633	
		Chil do. ...	130	138	
		Kail do. ...	8	17	
BEAS ...	Wazir Bholer ...	Deodar logs ...	404	11,530	
		Pine do. ...	127	2,477	
		Walnut do. ...	28	170	
		Maple do. ...	42	277	
		Walnut scantlings ...	25	45	
		Maple do. ...	109	499	
		Broad-gauge sleepers ...	50	175	
		Narrow-gauge do. ...	4,720	7,080	
		Other scantlings ...	114	232	
		Waste wood ...	1,401	...	
		Scraps and pieces ...	1	...	
		Firewood ...	50	...	
		Drift and waif wood ...	452	244	
	Nadaon ...	Deodar logs ...	42	2,151	
		Broad-gauge sleepers ...	49	153	
		Waste wood ...	49	...	
		Drift and waif wood ...	36	...	
	Nowshera ...	Deodar logs ...	10	352	
		Drift and waif wood ...	23	...	
	Wazir Bholer ...	Bamboos ...	131	...	
	Pandian ...	Do. ..	5,41,303	...	
	Dhamtal ...	Do. ...	79,450	...	
BASHAHR ...	Suni ...	Deodar scantlings ...	1,104	1,122	
		Box wood pieces ...	24	...	
		Scraps and pieces ...	764	293	
JHELUM ...	Jhelum ...	Deodar logs ...	2,502	64,158	
		Pine " ...	1,802	31,814	
		Narrow-gauge sleepers ...	2,167	3,251	
		Waste wood ...	312	5,933	
		Other scantlings ...	871	...	
		Scraps and pieces ...	906	...	
	Chak Nizam ...	Deodar logs ...	1,041	27,304	
		Pine " ...	2,894	45,525	
		Narrow-gauge sleepers ...	77	255	
		Waste wood ...	231	1,651	
		Other scantlings ...	78	80	
		" " ...	1	1,600	
		Kikar ...	560	...	Maunds.
		Scraps and pieces ...	470	2,080	
	Khushab ...	Deodar logs ...	679	10,996	
		Pine " ...	4,636	55,891	
		Waste wood ...	244	1,634	
	Trimmu ...	Deodar logs ...	489	8,548	
		Pine " ...	6	334	
		Waste wood ...	109	..	
		Narrow-gauge sleepers ...	7	12	
		Other scantlings ...	7	7	

Annual Form No. 61.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1884-85—continued.

DIVISION.	Depôt or Locality.	PRODUCE SOLD. Description.	Number or quantity.	Cubic feet.	REMARKS.
GUJRANWALA ...	Jhikar	Deodar logs	4,511	76,344	
		Pine ,, ...	26	403	
		Broad-gauge sleepers ...	655	2,274	
		Narrow-guage ,, ...	983	1,475	
		Scraps and pieces ...	168	418	
LAHORE ...	Changa Manga ...	Sissu poles ...	450	...	
	Do. ...	Firewood ...	...	14,03,210	
	Shahdera ...	Do. ...	...	2,83,400	
	Jhoke ...	Do. ...	...	40,935	
PHILLOUR ...	Phillour ...	Deodar logs ...	5,216	1,06,110	
		Pine ,, ...	331	4,550	
		Narrow-guage sleepers ...	3,334	...	
		Scraps and pieces ...	1,341	...	
		Firewood pieces ...	632	...	
		Bamboos ...	3,928	...	
	Rupar ...	Deodar logs ...	139	4,280	
		Narrow-guage sleepers ...	149	224	
		Scraps and pieces ...	728	6,791	
		Slabs ...	2,654	...	Mds.
		Firewood pieces ...	1,087	...	
		Bamboos ...	9	...	
HAZARA ...	Dunga-galli ...	*Sold Locally.*			
		Biar scantlings ...	3,189	3,042	
		,, shingles ...	74,930	...	
		Paludar ,, ...	1,22,945	...	
		Firewood, Mds. ...	1,062	...	
		Charcoal ,, ...	87	...	
	Kaghan ...	Firewood, Mds. ...	10	...	
RAWALPINDI ...	Murree Range ...	Other scantlings ...	22	...	
		Charcoal, Mds. ...	98	...	
		Firewood ,, ...	113	...	
		Do. cubic feet ...	...	29,685	
	Rawalpindi ...	Grass, Mds. ...	219	...	
CHAMBA ...	River Bank ...	Deodar logs ...	437	9,506	
		Pine ...	123	1,836	
		Drift and waif wood ...	2	...	
	Forests	Other scantlings ...	97	62	
		Firewood, stacks ...	...	34,786	
BEAS ...	Various ...	Drift and waif wood ...	685	...	
		Bamboos ...	13	...	
		Grass, loads ...	2	...	
KULU ...	River Bank ...	Deodar logs ...	2	152	
		Drift and waif ...	203	...	
GUJRANWALA ...	Various ...	Sleepers ...	3	...	
		Firewood ...	...	4,819	
LAHORE ...	Kuthala ...	Firewood ...	...	1,938	
	Toria ...	Do. ...	...	83,600	
	Carob ...	Do. ...	...	1,000	
	Mandianwala ...	Do. ...	...	3,024	
	Korotana ...	Do. ...	...	7,465	
	Bengali ...	Do. ...	...	2,450	
MOOLTAN ...	Vinoi Reserve ...	Rafters ...	2,275	...	
	Muzaffargarh ...	Firewood, cft. ...	...	1,000	
	Mooltan ...	Do. ...	...	69,526	
		Do. ...	...	6,942	499 camel loads
MONTGOMERY ...	Rakh Police ...	Firewood, cft. ...	...	1,22,800	

Annual Form No. 61.—[*Suggested.*]

FOREST DEPARTMENT, PUNJAB.

Sales of Timber and other Produce cut and collected by Government Agency during the year 1884-85.—concluded.

Division.	Depôt or Locality.	Produce sold. Description.	Number or quantity.	Cubic feet	Remarks.
Phillour ...	Kalesar	Tors ...	41	..	
	"	Bullas ...	11	.	
	Hurriki	Deodar logs ...	2		
	Transit depôts ...	Scraps ...	1	9	
	" ..	Bamboos ...	87	...	
	Una .	Sleeper .	1	...	
		ABSTRACT OF THE PROVINCE *Sold from Depots*			
		Deodar logs ..	16,804	3,47,649	
		Pine " ...	10,171	1,47,145	
		Broad-gauge sleepers ...	10,822	36,175	
		Narrow-gauge " ...	14,682	17,155	
		Deodar scantlings .	3,272	3,828	
		Tos " ..	4,398	4,879	
		Rai " .	1,835	1,633	
		Chil " .	130	138	
		Kail " ..	8	17	
		Walnut " ...	25	45	
		Maple " ...	199	499	
		Other " ...	1,071	1,919	
		Boxwood ..	24		
		Scraps and pieces ...	4,683	9,882	
		Drift and waif wood ...	511	244	
		Waste wood ..	2,346	9,218	
		Sissu poles ...	450		
		Walnut logs .	28	170	
		Maple " ...	42	277	
		Total Timber ...	71,501	5,80,873	
		Total for 1883-84 .	1,50,165	8,69,539	
		" Slabs ...	2,654	...	Mds.
		" Kikar ..	560	...	"
		Charcoal ...	9,660	...	Mds.
		Firewood ...	1,769	.	Pieces.
		" ...	.	17,42,425	Cft.
		Bamboos ...	6,28,107		Pieces.
	For 1883-84	Firewood ...	10,979		Mds.
		" ...	320	19,69,392	Cft.
		Charcoal ...	11,327	..	Mds.
		Bamboos ...	6,87,979	...	Pieces.
		Sold Locally.			
		Deodar logs ...	441	9,658	
		Pine " ...	123	1,836	
		Biar scantlings ...	3,189	3,042	
		Other scantlings ...	119	62	
		Tors ...	41	...	
		Bullas ...	11		
		Sleepers ...	4	..	
		Scraps ..	1	9	
		Drift and waif ...	890	...	
		Rafters ...	2,275	...	
		Total Timber For 1883-84 ...	7,094 25,645	14,607 35,051	
		Firewood, Mds ...	1,185	..	
		" cft. .	...	3,69,035	
		Charcoal, Mds. .	185	...	
		Grass " ...	219	..	
		" loads ...	2	...	
		Bamboos ...	100	.	
		Shingles ..	1,97,875	..	
	For 1883-84	Firewood ..	16,874	..	Mds.
		" ...		77,397	Cft.
		Shingles ...	1,70,108	..	Pieces

Annual Form No. 62.—[*Prescribed.*]

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1884-85.

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Balance in hand at commencement of the year.				
Chamba Division.				
Narrow-gauge sleepers ...	3,211	4,817		
Broad-gauge sleepers ...	989	3,157		
Deodar scantlings	2,402	2,048		
Tos " ...	199	183		
Other " ..	57	32		
			6,858	10,237
Beas Division.				
Deodar logs ...	404	11,141		
Pine " ...	100	2,144		
Walnut " ...	28	170		
Maple " ...	42	278		
Boxwood ...	10	6		
Broad-gauge sleepers ..	132	424		
Narrow-gauge sleepers ...	4,719	7,079		
Other scantlings ...	224	452		
Walnut " ...	25	45		
Maple ...	199	499		
Scraps and pieces ..	546	275		
			6,429	22,513
Bashahr Division.				
Deodar logs ...	1,198	28,322		
Pine " ...	37	663		
Deodar scantlings	697	600		
Scraps and pieces...	1,090	...		
			3,017	29,585
Jhelum Division.				
Deodar logs ..	506	7,807		
Pine " ...	4,867	54,115		
Narrow-gauge sleepers ...	2,226	3,442		
Other scantlings ...	10	1,610		
Scraps and pieces...	1,376	2,080		
			8,985	69,054
Gujranwala Division.				
Deodar logs ...	996	20,583		
Pine " ...	1	8		
Ash " ...	1	9		
Broad-gauge sleepers ...	568	1,963		
Narrow-gauge sleepers ...	983	1,475		
Scraps and pieces...	57	...		
			2,606	24,038
Phillour Division.				
Deodar logs ...	2,161	74,598		
Narrow-gauge sleepers ...	4,098	*6,131		
Scraps and pieces...	2,322	...		
			8,581	80,729
Total Balance ...	...	...	36,476	2,36,156
Carried over ...	...	...	36,476	2,36,156

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Removed by purchasers from depôts.				
Deodar logs ..	16,804	3,47,649		
Pine " ...	10,171	1,47,145		
Broad-gauge sleepers ...	10,822	36,175		
Narrow-gauge sleepers ...	14,682	17,155		
Deodar scantlings	3,272	8,828		
Tos " ...	4,398	4,879		
Rai " ...	1,835	1,633		
Chil " ...	130	138		
Kail " ...	8	17		
Walnut " ...	25	45		
Maple " ...	199	499		
Other " ...	1,071	1,919		
Boxwood ...	24	...		
Scraps and pieces	4,683	9,882		
Drift and waif wood ..	511	244		
Waste wood ...	2,346	9,218		
Sissu poles ...	450	..		
Walnut logs ...	28	170		
Maple " ...	42	277		
			71,501	5,80,873
Kikar mds.	560	...	560	
Slabs "	2,654	...	2,654	
Used by the Department.				
Deodar logs ...	17	739		
Narrow-gauge sleepers ...	36	30		
Deodar scantlings	684	684		
Tos " ...	369	343		
Rai " ...	146	127		
Chil " ...	36	27		
Oak " ...	57	32		
Scraps and pieces	1	...		
Waste wood ...	6	...		
			1,352	1,982
Returned to owners.				
Scraps and pieces	1,363	...		
Waste wood ...	881	3,216		
Narrow-gauge sleepers	37	...		
			2,281	3,216
Transferred to other class.				
Drift and waif wood	12	...		
Other scantlings...	2	6		
Narrow-gauge sleepers ...	34	...		
			48	6
Transferred to drift.				
Deodar logs ...	98	1,957	98	1,957
Carried over ...	...	...	75,280	5,88,034
Do. ...	...	Mds.	3,214	...

* Not shown by Divisional Officer in last return.

Annual Form No. 62.—[*Prescribed.*]

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1884-85.—continued.

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Brought forward ...	...	...	36,476	2,36,156
Received from the Forests in Depots				
Deodar logs ...	16,406	3,56,440		
Pine ,, ...	7,129	1,16,125		
Broad-gauge sleepers	10,283	34,314		
Narrow-gauge sleepers	5,772	3,535		
Deodar scantlings	3,682	4,389		
Tos ,,	5,228	5,618		
Rai ,,	2,208	1,892		
Kail ,,	8	17		
Chil ,,	166	165		
Other ,,	973	178		
Drift and waif wood	1,491	244		
Scraps and pieces ..	2,996	1,727		
Waste wood ...	4,648	13,816		
Boxwood ...	48	...		
Sissu poles ...	450	...	61,488	5,38,460
Kikar ... Mds.	560	...	560	
Slabs ... Mds.	121	...	121	...
Received by conversion.				
Deodar scantlings	951	1,122		
Narrow-gauge sleepers	5	17	956	1,139
Received by transfer from firewood.				
Scraps and pieces	5	31		
Scraps and pieces (chips)	...	6,075	5	6,106
Scraps and pieces (Slabs) ... Mds.	3,473	...	3,473	...
Received from the forests and sold locally				
Deodar logs ...	441	9,658		
Pine ,, ...	123	1,836		
Other scantlings .	119	62		
Tos	41	...		
Ballas	11	...		
Sleepers	4	...		
Scraps	1	9		
Drift and waif wood	890	...		
Rafters ...	2,275	...		
Biar scantlings ...	3,189	3,042		
			7,094	14,607
Carried over ...	...	...	1,06,019	7,96,468
Do.	...	Maunds	4,154	...

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Brought forward...	...	...	75,280	5,88,034
Do.	...	Maunds	3,214	...
Rafted to other Depots.				
Deodar logs ...	1,524	38,601		
Pine ,, ...	75	1,656		
Blue pine logs ...	37	646		
Narrow-gauge sleepers ...	5	68		
Other scantlings	12	49		
Scraps and pieces	1,096	1	2,749	41,021
Lost by measurement.				
Deodar logs ...	...	288		
Blue pine ...	...	17	...	305
Converted in Depot.				
Deodar logs ...	363	7,841	363	7,841
Lost by floods.				
Scraps and pieces	1,355	...	1,355	...
Slabs, Maunds	940	...	940	...
Sold locally.				
Deodar logs ...	441	9,658		
Pine ,, ..	123	1,836		
Biar scantlings ...	3,189	3,042		
Other scantlings	119	62		
Tos	41	...		
Ballas	11	...		
Sleepers	4	...		
Scraps	1	9		
Drift and waif wood	890	...		
Rafters ...	2,275	...	7,094	14,607
Used by Dept. locally.				
Planks	63	...		
Biar Scantlings...	27	33		
Other ,, ...	32	...		
Paludar ,, ...	417	546	539	579
Destroyed by snow.				
Biar scantlings ...	13	16	13	16
Balance at close of the year.				
Chamba Division.				
Deodar scantlings	3,232	3,047		
Tos do.	660	579		
Rai do.	227	132		
Broad-gauge sleepers ...	979	3,122	5,098	6,880
Beas Division.				
Deodar logs ..	500	24,365	...	...
Pine do. ...	1	43	...	...
Boxwood logs ...	10	6	...	...
Broad-gauge sleepers ...	95	320	...	...
Carried over ...	606	24,734	92,491	6,59,283
Do.	...	Maunds	4,154	...

Annual Form No 62.—[*Prescribed.*]

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1884-85.—continued.

Particulars.	Number or quantity.	Cubic feet.	Total of each head. Number or quantity.	Total of each head. Cubic feet.	Particulars.	Number or quantity.	Cubic feet.	Total of each head. Number or quantity.	Total of each head. Cubic feet.
Brought forward ...	...	...	10,6,019	7,96,468	*Brought forward* ...	606	24,734	92,401	6,59,283
Do. mds. ...	...	...	4,154	...	*Do.* Mds. .	...	...	4,154	...
Received from the forests locally and used by Department.					*Beas Division*—contd.				
					Narrow-gauge sleepers ...	1	1	...	...
Planks ...	68	...			Other scantlings	122	258	...	...
Biar scantlings ...	27	33			Waste wood ..	3	..	...	...
Other do. ...	32	...			Scraps and pieces	7	...	...	...
Paludar do. ...	417	546			Drift & waif wood	150	278		
			539	579				889	25,266
Received from the forests locally and destroyed by snow.					*Bashahr Division.*				
					Deodar logs ...	55	2,643	...	...
					Do. scantlings	544	600		
								599	3,243
Biar scantlings ...	13	16			*Jhelum Division.*				
			13	16	Deodar logs ...	264	4,292	...	...
					Pine do. ...	1,849	23,540	...	...
					Waste wood ...	1,412	1,382	...	...
								3,525	29,214
					Gujranwala Division.				
					Deodar logs .	20	242	...	...
					Pine do. ..	1	8	...	...
					Ash do. ..	1	9	...	...
					Broad-gauge sleepers . .	76	250	...	...
					Scraps and pieces	62	31	...	...
								160	540
					Phillour Division.				
					Deodar logs ...	2,021	70,274	...	...
					Narrow-gauge sleepers ...	6,219	9,243	...	...
					Box wood ...	24	...	...	...
					Scraps and pieces	643	...	...	...
								8,907	79,517
Total ...	...	...	1,06,571	7,97,063	Total ...	...	...	1,06,571	7,97,063
			Mds4,154					Mds4,154	...
Total 1883-84 ...	...	...	2,45,235	15,11,240	Total 1883-84 ...	...	...	2,45,235	15,11,240

ABSTRACT.

Balance at commencement of the year ...	...	...	36,476	2,36,156	Removed by purchasers ...	...	...	71,501	5,80,873
Received from the forests in depôts during the year	...	...	61,488	5,38,460	Used by Department	...	...	1,352	1,982
Received by conversion in depôts ...	...	...	956	1,139	Returned to owners	...	...	2,281	3,216
Received from Firewood ...	...	...	5	6,106	Transferred to other classes ..	...	...	48	6
Received from the forests and sold locally . .	...	...	7,094	14,607	" to Drift...	...	...	98	1,957
Received from the forests locally and used departmentally	...	...	539	579	Rafted to other Depôts ...	...	...	2,749	41,021
Received from the forests locally and destroyed by snow	...	...	13	16	Lost by measurement ...	...	...	...	305
					Converted in Depôt	...	...	363	7,841
					Lost by floods ...	...	...	1,355	...
					Sold locally ...	...	...	7,094	14,607
					Used by Deptt. locally ...	...	...	539	579
					Destroyed by snow	...	...	13	16
					Balance at close of the year ...	...	...	19,178	1,44,660
Total ...	...	...	1,06,571	7,97,063	Total ...	...	..	1,06,571	7,97,063
" Mds. ...	...	...	4,154	...	" Mds. ...	...	...	4,154	...
" 1883-84 ...	...	...	2,45,235	15,11,240	" 1883-84 ...	...	...	2,45,235	15,11,240

Annual Form No. 62—[*Prescribed*].

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depots or sold locally during the year 1884-85.—continued.

Particulars.	Number or quantity.	Cubic feet.	Total of each head. Number or quantity.	Total of each head. Cubic feet.
FIREWOOD AND CHARCOAL.				
Balance in hand at commencement of the year.				
Rawalpindi Division				
Charcoal, mds. ...	1,158	...	1,158	...
Lahore Division.				
Firewood, c ft. ...	...	3,37,375	...	3,37,375
Gujranwala Divn.				
Firewood, c.ft. ...	5	31	5	31
Phillour Division				
Firewood, mds. ...	3,473	...	3,473	...
Do. c.ft. ...	1,274	6,075	1,274	6,075
Received from the Forest in Depots.				
Firewood, pieces ...	542	...	542	...
Do. c.ft. ...	...	15,98,915	...	15,98,915
Charcoal, mds ...	9,737	...	9,737	...
Received from the Forest and sold Locally.				
Firewood, mds. ...	1,185	...	1,185	...
Do. c.ft. ...	...	3,69,035	...	3,69,035
Charcoal, mds. ...	185	...	185	...
Grass, mds. ...	219	...	219	...
Do. loads. ...	2	...	2	...
Received from the Forests Locally and used by the Department.				
Firewood mds. ...	20	...	20	...
Do. c.ft. ...	...	300	...	300
Charcoal mds. ...	3	...	3	...
Total ...	17,803	23,11,731	17,803	23,11,731
For 1883-84 ...	45,434	23,90,421	45,434	23,90,421

Particulars.	Number or quantity.	Cubic feet.	Total of each head. Number or quantity.	Total of each head. Cubic feet.
Removed by Purchasers.				
Firewood, pieces ..	1,769	...	1,769	...
Do. c.ft. ...	...	17,42,425	.	17,42,425
Charcoal, mds. ...	9,660	...	9,660	...
Used by Dept.				
Firewood, c.ft. ...	...	600	..	600
Lost in restacking	...	19,865	...	19,865
Sold Locally.				
Firewood, mds. ...	1,185	...	1,185	...
Do. c.ft. ...	...	3,69,035	...	3,69,035
Charcoal, mds. ...	185	...	185	...
Grass, " ...	219	...	219	...
Do. Loads ...	2	...	2	...
Used Locally.				
Firewood, mds. ...	20	...	20	...
Do. c.ft. ...	...	300	...	300
Charcoal, mds. ...	3	...	3	...
Transferred to Timber.				
Firewood, c.ft. ...	5	6,106	5	6,106
Do. mds....	3,473	...	3,473	...
Balance at close of Year.				
Rawalpindi Division				
Charcoal, mds. ...	1,235	...	1,235	...
Lahore Division.				
Firewood c.ft. ...	...	1,73,400	...	1,73,400
Phillour Division.				
Firewood, pieces ...	47	...	47	...
Total ...	17,803	23,11,731	17,803	23,11,732
For 1883-84 ...	45,434	23,90,421	45,434	23,90,421

Annual Form No. 62—[*Prescribed*]

FOREST DEPARTMENT, PUNJAB.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1884-85.—*concluded.*

PARTICULARS.	Number or quantity.	Cubic feet.	TOTAL OF EACH HEAD. Number or quantity	Cubic feet	PARTICULARS.	Number or quantity.	Cubic feet.	TOTAL OF EACH HEAD. Number or quantity.	Cubic feet
			BAMBOOS.						
BALANCE IN HAND AT COMMENCEMENT OF THE YEAR.					REMOVED BY PURCHASERS.				
Rawalpindi Division.					Bamboos ...	6,28,107	...	6,28,107	...
Bamboos. ...	3,286	...	3,286	...	USED BY DEPARTMENT-				
Phillour Division. ...					Bamboos ..	735	...	735	...
Bamboos. ...	98	...	98	...	MADE OVER TO OWNERS.				
RECEIVED DURING THE YEAR.					Bamboos ..	50	...	50	...
Bamboos. ...	6,27,184	...	6,27,184	...	TRANSFERRED TO OTHER DEPOTS.				
RECEIVED FROM FORESTS AND SOLD LOCALLY.					Bamboos ...	36	...	36	...
Bamboos. ...	100	...	100	...	SOLD LOCALLY.				
					Bamboos ..	100	...	100	...
					BALANCE AT CLOSE OF THE YEAR.				
					Phillour Division.				
					Bamboos ...	128	...	128	...
					Beas Division.				
					Bamboos ...	1,512	...	1,512	...
TOTAL ...	6,30,668	...	6,30,668	...	TOTAL ...	6,30,668	...	6,30,668	...
TOTAL 1883-84 ...	6,91,525	...	6,91,525	...	TOTAL 1883-84 ...	6,91,525	...	6,91,525	...

SHINGLES.

BALANCE IN HAND AT COMMENCEMENT OF THE YEAR	7,000	...	7,000	...	SOLD LOCALLY. Shingles ...	1,97,875	...	1,97,875	...
RECEIVED FROM THE FORESTS.					*Broken in Transit.* Shingles ...	55	...	55	...
Shingles ...	1,92,135	...	1,92,13	...	Balance in hand at close of year...	1,205	...	1,205	...
TOTAL ...	1,99,135	...	1,99,135	...	TOTAL ...	1,99,135	...	1,99,135	...
TOTAL 1883-84 ...	1,77,108	...	1,77,108	...	TOTAL 1883-84 ...	1,77,108	...	1,77,108	...

Annual Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1884-85.

Division.	Produce Removed. Description.	Number or quantity.	Amount of Revenue.	Amount actually realized during the year.	Remarks.
			Rs.	Rs.	
Hazara ...	Biar trees ...	23	380	380	
	Paludar trees ...	112	450	450	
	Chir " ...	22	101	101	
	Rhin " ...	5	28	28	
	Turkan " ...	3	5	5	
	Barunji " ...	2	3	3	
	Barmi " ...	2	2	2	
	Kalakath " ...	28	14	14	
	Kao " ...	4	8	8	
	Total trees ...	201	991	991	
	Dry fallen timber ...	41	87	87	
	Kurries ...	240	12	12	
	Total ...	281	99	99	
	Firewood, c.ft. ...	67,974	1,315	1,315	
	" ...	...	490	490	
	Total Firewood ...	...	1,805	1,805	
	Grazing Leases, acres ...	35,498	1,308	1,308	
	Grazing cattle ...	4,122	284	284	
	Grass cutting leases, acres .	31,524	2,336	2,336	
	Grass, loads ...	18,042	1,122	1,122	
	Grazing Commissariat cattle ...	865	127	127	
	Grass cutters ...	109	110	110	
	Total Grazing and Grass ...	...	5,287	5,287	
	Minor Produce ...	...	162	162	
	Total Revenue under R II ...	...	8,344	8,344	
Rawalpindi ...	Pinus Longifolia trees, green ...	954	7,596	7,596	
	" " " dry ...	169	462	462	
	Other trees ...	151	149	149	
	Total trees ...	1,274	8,207	8,207	
	Rafters ...	914	72	72	
	Firewood, c.ft. ...	3,29,250	8,578	8,578	
	Grazing leases ...	...	3,926	3,498	
	" by permit, loads ...	8,727	544	544	
	" " cattle ...	18,603	802	802	
	Total Grazing and Grass ...	...	5,272	4,844	
	Bamboos ..	4,300	336	336	
	Stones, c.ft. ...	700	3	3	
	Minor produce ...	...	524	524	
	Total Minor Produce ...	...	527	527	
	Total Revenue under R II ...	...	22,992	22,564	
Chamba ...	Chil trees ...	224	875	875	
	Tos " ...	5	3	3	
	Total trees ...	229	878	878	
	Slabs ...	46	17	17	
	Firewood, c.ft. ...	1,328	16	16	
	Fodder grass, mds. ...	869	27	27	
	Deodar Seedlings ...	280	18	18	
	Total Revenue under R II ...	...	956	956	

Annual Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected and removed from the Forests by Consumers or Purchasers, including Pasture, during the year 1884-85.—continued.

Division.	Produce Removed. Description	Number or quantity	Amount of Revenue	Amount actually realized during the year	Remarks
			Rs	Rs	
Beas ..	Deodar trees	22	57	57	
	Pine " ...	7,168	18,962	17,523	
	Other " .	959	153	153	
	Total trees	8,149	19,172	17 733	
	Poles and dry timber	12,016	546	546	
	Bamboos	9,275	36	36	
	Grass	...	1 923	1 923	
	Grazing dues	.	3,685	3 685	
	Total Grazing and grass		5 608	5,608	
	Minor Produce		57	57	
	Total Revenue under R II	...	25 419	23,980	
Kulu ...	Deodar trees	67	199	199	
	Kail "	14	18	18	
	Rai "	17	17	17	
	Tos "	30	15	15	
	Total trees	128	249	249	
	Dry fallen timber .	.	15	15	
	Grazing ..		100	100	
	Total Revenue under R II	.	364	364	
Jhelum ..	Firewood		1,325	1,325	
	Grazing by permit	..	1,380	1,380	
	Do leases .		10,808	11,989	
	Total grazing and grass ...	.	12,188	13 369	
	Stone cft	24,750	62	62	
	Coal .	..	10	10	
	Other minor produce .	..	125	115	
	Total minor produce ...	...	197	187	
	Total revenue under R II	...	13,710	14,881	
Gujranwala	Firewood cft ...	2,13,237	6,215	6,215	
	Grazing leases .		85,430	76,194	
	Grass, loads	4,393	284	284	
	Grazing cattle .	18,144	7,486	7,486	
	Total grazing and grass .		93,200	* 83,964	* Rs 1,738 written off
	Minor produce ..	.	274	274	
	Total Revenue under R II ..	...	99,689	* 90,453	* Do
Lahore ...	Trees	291	1,101	1,101	
	Poles	1,000	62	62	
	Firewood cubic feet ..	16,07,569	48,448	48,448	
	Brushwood "	22,93,150	4,440	4,440	
	Firewood ...		62	62	
	Total Firewood ..	...	52,950	52,950	
	Grazing dues	..	40,656	40,656	
	Minor produce	..	2,302	2,302	
	Total Revenue under R II ..	...	97,071	97,071	

Annual Form No. 63.

Forest Department, Punjab.

Timber and other Produce cut, collected and removed from the Forest by Consumers or Purchasers, including Pasture, during the year 1884-85.—concluded.

Division.	Produce Removed. Description.	No. or quantity.	Amount of revenue.	Amount actually realized during the year.	Remarks.
			Rs.	Rs.	
Mooltan ...	Trees	538	161	161	
	Firewood cubic feet	13,42,905	30,211	30,211	
	Brushwood	...	29	29	
	Total Firewood ..	...	30,240	30,240	
	Grazing cattle	20,339	3,800	3,800	
	,, leases	...	2,094	2,094	
	,, ,, ...	...	1,299	1,299	
	Grass loads	20	2	2	
	Total Grazing and grass ...	...	7,195	7,195	
	Minor produce	...	420	420	
	Total Revenue under R. II	...	38,016	38,016	
Montgomery...	Trees	712	54	54	
	Firewood, cubic feet	8,72,296	24,011	24,011	
	,, sold by auction	...	2,498	2,498	
	Thinnings	...	21	21	
	Total Firewood	...	26,530	26,530	
	Grazing	...	34,643	28,697	
	,, cattle	17,944	2,529	2,529	
	Total grazing and grass	...	37,172	31,226	
	Minor Produce	...	1,867	1,758	
	Total Revenue under R. II ...	...	65,623	59,568	
Phillour ..	Timber, cubic feet	8	2	2	
	Firewood, cubic feet	14,932	186	186	
	Bamboos, No.	3,760	29	29	
	Bhabur grass Mds.	393	35	35	
	Poola ,, ,, ...	1,520	107	107	
	Spear ,, ,, ...	21	2	2	
	Sirkana ,, ,, ...	142	11	11	
	Other ,, ,, ...	...	1,378	1,378	
	Grazing cattle, No.	440	177	177	
	,, leases	...	1,550	1,550	
	Total grazing and grass ...	...	3,260	3,260	
	Total Revenue under R. II. ...	...	3,477	3,477	
	ABSTRACT.				
	Trees cut No. ...	11,522	...	29,374	
	Poles and dry timber, No. ...	14,265	...	813	
	Firewood, c.ft. ..	67,42,641	...	1,23,420	
	,, ...	...	...	4,425	
	Grazing leases ...	..	...	1,65,977	
	,, ,, Acres ...	35,498	...	1,308	
	Grass cutting leases ,, ...	31,524	...	2,386	
	Grazing cattle ...	80,457	..	15,205	
	Grass cutters ...	109	...	110	
	Grazing and grass ...	...	...	7,088	
	Other grass ...	...	...	1,378	
	Grass, loads ...	31,182	...	1,952	
	Fodder grass, Mds. ...	869	...	27	
	Bhabur ,, ,, ...	393	...	35	
	Poola ,, ,, ...	1,520	...	107	
	Spear ,, ,, ...	21	...	2	
	Sirkana ,, ,, ...	142	...	11	
	Bamboos No. .	17,335	...	401	
	Stones cft. ..	25,450	...	65	
	Coal ...	...	...	10	
	Other minor produce ...	...	...	5,630	
	Total Revenue of the Province under R. II ...	...	...	3,59,674	

Form No 65.

FOREST DEPARTMENT, PUNJAB.

Abstract shewing the value of Timber and other Produce at Sale Depôts for the year 1884-85.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		REMARKS.
	No.	Cubic feet.	Value.	No.	Cubic feet	Value	In favor of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
Deodar timber ...	5,260	*1,42,451	87,808	2,860	1,01,816	63,635	...	24,173	Valued @ 10 annas per cubic foot.
Pine	5,005	†56,930	15,915	1,851	23,591	7,496	...	8,419	Valued @ 5 annas per cubic foot.
Fancy wood ...	81	463	260	35	15	8	...	252	Valued @ 9 annas per cubic foot.
Broad-gauge sleepers	1,689	5,544	4,222	1,150	3,692	2,875	...	1,347	Valued @ Rs. 2-8 each.
Narrow-gauge do.	15,237	‡22,944	25,220	6,220	9,244	9,330	...	15,890	Valued @ Rs. 1-8 each.
Deodar scantlings ...	3,099	2,648	2,648	3,776	3,647	3,647	999	...	Valued @ Re. 1 per cubic foot.
Walnut do.	25	45	45	...	...	...	...	45	
Maple do. ..	199	499	499	...	.	...	...	499	
Other do. ...	490	2,277	2,277	1,009	969	61	. .	2,216	Valued @ 1 anna per cubic foot.
Scraps and pieces ...	5,391	2,355	1,348	2,277	1,686	569	...	779	Valued @ 4 annas per piece.
Total Timber ...	36,476	2,36,156	1,40,242	19,178	1,44,660	87,621	...	52,621	
For 1883-84 ...	43,887	3,35,769	1,80,836	36,476	2,30,025	1,40,242	...	40,594	
Bamboos	3,384	...	320	1,640	...	148	...	172	Valued @ Rs. 9 per 100.
Firewood, maunds ...	3,473	...	1,362	...	...	...	...	1,362	
,, cubic feet ..	...	§3,43,481	13,387	...	1,73,400	6,936	...	6,451	Valued @ Rs 4 per 100 cubic feet.
,, pieces ...	...	...	...	47	...	3	3	...	Valued @ 1 anna per piece.
Charcoal, maunds ...	1,158	...	1,158	1,235	...	1,235	77	...	Valued @ Re. 1 per maund.
Total ...	8,015	3,43,481	16,227	2,922	1,73,400	8,322	...	7,905	
For 1883-84. ...	22,505	1,94,825	14,207	8,015	3,43,481	16,227	2,020	...	
Total ...			1,56,469	...	...	95,943	...	60,526	
For 1883-84 ...			1,95,043	...	...	1,56,469	...	38,574	

Net difference against the year, Rs. 60,526.

* Misprinted 16,451.
† Misprinted 50,930.
‡ 6,131 cubic foot added in Phillour Division.
§ Shown by mistake as 3,34,680 in last Return.

APPENDIX A.

RAWALPINDI DIVISION.

Demarcation Statement, 1884-85.

Civil District.	Name of tahsil.	Names of Forests.	Area in acres.	Area in square miles.	Length in miles.	DEMARCATED. To 1st April 1884. No. of pillars, trenches &c.	To 1st April 1884. Approximate cost.	During 1884-85. Pillars. Pacca.	During 1884-85. Pillars. Kacha.	During 1884-85. Approximate cost.	Total pillars to end of March 1885. Pacca.	Total pillars to end of March 1885. Kacha.	Total pillars to end of March 1885. Approximate cost.	Lines cut, walled trenches &c. Miles &c., cut and cost on 1st April 1884.	Lines cut, walled trenches &c. Miles &c., cut and cost during the year.	Lines cut, walled trenches &c. Total to end of March 1885.	Remaining to be done, lines, miles, &c.	Remarks.
		Reserves.				*Pillars.*	Rs.			Rs.			Rs.					
RAWALPINDI.	Rawalpindi ...	Margalla	30,130	47	124	906	1,707	...	...	7	853	53	1,714	5½ miles = 1,080	11	2,805	118½	Rs. 7 for clearing 481 pillar sites. Rs. 11 on repairing 240 ft. walling, 22 Pacca and 3 Kacha village trijunction pillars in addition.
	Rawalpindi ...	Maira	1,408	2	...	23	60	...	...	1	22	1	61	...	...	61	19	Difference in pillars due to re-numbering by Forester.
		Banigala	765	1	19	97	199	...	...	5	97	...	204	...	...	204	...	Expenditure on white-washing and clearing pillar sites, 1 Pacca village trijunction in addition.
		Thamair	3,368	5	26	200	290	...	...	6	154	46	296	...	...	296	26	Expenditure on clearing pillar sites difference due to re-numbering pillars.
	Attock ...	Kherimar	2,261	4	20	185	446	...	...	...	171	14	446	...	...	446	20	2 Pacca and 1 Kacha village trijunction pillars in addition.
		Kawagarh	4,396	7	21	204	450	...	...	...	173	31	450	...	...	450	21	4 Pacca do. do.
	Fatehjang ...	Khairi Murat	13,775	22	44	305	657	...	...	4	254	51	661	2 miles = 866	...	1,527	42	Rs. 4 for erecting 2 pillars on corrected sites.
		Kanhál	1,207	2	8	125	124	...	...	...	55	70	124	...	...	124	8	
	Gujar Khan ...	Bagham	5,910	9	30	171	282	...	...	5	141	30	287	...	...	287	30	Rs. 5 for clearing pillar sites.
			63,220	99	292	2,216	4,215	...	...	28	1,920	296	4,243	7½ miles = 1,946	11	6,200	234½	
		Protected.																
	Rawalpindi ...	Kala Chitta	1,515	2	...	58	117	...	...	...	58	...	117	...	...	117	...	
	Attock ...	"	30,899	48	...	263	...	...	...	...	...	263	...	...	...	...	...	
	Fatehjang ...	"	28,199	44	...	588	...	...	...	...	...	588	...	...	...	...	...	
		Total ...	60,613	94	...	909	117	...	...	...	58	851	17	...	...	117	...	

GUJRANWALA DIVISION.

RESERVES.

District.	Name of Reserve.	Area in square miles	Boundary. Total length in miles	Demarcated. Length in miles.	Demarcated. How demarcated.	Remaining to be demarcated	Remarks.
Gujranwala.	Bela Thutta Faqirulla	1	4	2½	Continuous trench.	...	Balance as stated above cannot be demarcated yet.
	Kikranwali ...	1	3½	3½	" and Pacca Pillars	...	
	Total Gujranwala District ...	2	7½	5½	"	...	
Gujrat.	Dhul ...	1	5½	5½	Pacca Pillars ...	...	Reserved under Section 34 of Forest Act.
	Mari ...	1	6	6	" ...	...	
	Bahlolpur ...	...	2½	2½	Kacha Pillars ...	...	
	Kaulowal ...	...	1½	1½	" ...	...	
	Syan ...	...	¼	¼	" ...	¼	
	Kotli Gohan ...	...	1½	1	" ...	½	
	Sadhoke ...	...	1½	1	"	½	
	Nath ...	1	4	1½	Continuous trench	2½	Demarcation all of previous years, only ½ mile of Rakh Gohar was done during this year.
	Pindi Tatar ..	1	4	¾	and Pacca Pillars	3¼	
	Pabbi ...	39	60	60	Pacca Pillars		
	Basul ..	2	4½	3½	" .	1	
	Sahna ...	4	9½	9½	Interrupted trenches,	...	
	Gohar ...	4	12½	12½	" ..	...	
	Bukan ...	3	12½	12½	" ...	...	
	Bhachchar ...	1	1½	1½	" ...	...	
	Bhikki ...	5	14	14	" ..	...	
	Sohawa Qadim	6	12½	12½	" ...	...	
	" Jadid ..	2	5½	5½	" ...	...	
	Wasú ...	2	4¼	4¼	" ...	...	
	Shahidanwali ...	1	3½	3½	" ...	...	
	Minargarh ...	1	7	6	" ...	1	
	Taraumwali ...	1	2¼	2¼	" ...	...	
	Tibi Tarar ...	...	2½	2½	" ..	...	
	Total Gujrat District	75	179¼	170		9¼	
	Grand Total ...	77	186¾	175½		...	
Gujranwala.	Ramuana ...	7	4½	4½	Kucha Pillars.	*Nil.*	Demarcation done in previous years. It is proposed to supplement the pacca pillars by interrupted trenching.
	Kandianwali ...	8	4	4			
	Pauliana ...	8	...	...			
	Andheri ...	8	...	...			
	Daborah ...	10	9½	9½			
	Choranwali ...	9	...	...			
	Moman ...	8	...	...			
	Burewala ...	11	...	...			
	Ratti ...	7	8½	8½			
	Bajwana ...	8	...	...			
	Kotha ...	8	...	...			
	Kothra ...	5	...	...			
	Mugahnwali ...	8	...	...			
	Malliana ...	9	...	...			
	Karkan ...	8	...	...			
	Gidranwali ...	7	...	...			
	Lagar (Part) ...	3	...	...			
	Tulanwali ...	8	...	...			
	Total ...	140	26½	26½			
Gujranwala.	*Proposed Reserves.*						*N. B.*—It is proposed, as soon as the data for the purpose is available, to define the boundary between the proposed Reserves and Proposed Protected Forests by interrupted trenching.
	Khinjranwali ...	2	2½	2½	Interrupted trenches.	*Nil.*	
	Gajyanah ...	10	6	6			
	Ratti Tibbi ...	12	5	5			
	Lagar ...	7	9½	9½			
	Kamalwali ...	7	10½	10½			
	Kanwanwali ...	10	11½	11½			
	Makki ...	7	9½	9½			
	Hamooki ...	4	7½	7½			
	Total ...	59	61¾	61¾			
	Proposed Protected.						
	Bhagomalli ...	7	9	9			
	Bhikolohari ...	7	7¾	7¾			
	Dhaban ...	6	2½	2½			
	Khinjranwali ...	6	3½	3½			
	Gujyanah ...	1	2	2			
	Total ...	27	24½	24½			

GUJRANWALA DIVISION.

RESERVES.—*continued.*

District.	Name of forest.	Area in square miles.	Boundary. Length in miles.	Demarcated. Length in miles.	Demarcated. How demarcated.	Remaining to be demarcated.	Remarks.
Gujranwala.	*Proposed Protected.*						
	Rakh Chhichhra ...	...	3	3	Continuous trench ...		
	Bela Santpura ...	1	3	2	Ditto ...		
	Jhinda Jhariana ...	2	4	4	Interrupted trench...		
	Rest of Lagar ...	3	10	10	Kacha pillars ...		
	Burjgahna ... / " Hasan ...	4	10	8	Pacca " ...		
	Total ...	10	30	27			
	Total Gujranwala District ...	96	116¼	113¼			
Gujrat.	*Chenab Belas.*						
	Bela Mohla ...						
	Ghazi Chak ...						
	Chak Gillan ...						
	Lunge ...						
	Sadullapur ...						
	Loug ...						
	Kamoke ...						
	Charke ...						
	Narang ...						
	Khosar ...						
	Mushtrika ...	8	42	30	Kacha pillars.		
	Jukalian ...						
	Thatthalia ...						
	Rampal ...						
	Sahanpal ...						
	Randiali ...						
	Murid ...						
	Kala Shadian ...						
	Jago ...						
	Qadriabad ...						
	Farrakhpur ...						
	Total ... Gujrat District.	8	42	30			
Shahpur District.	Bhullowal ...	1	7	7	Interrupted trenches.		
	Bahowal ...	5	19	19			
	Rukan ...	2	7½	7½			
	Busal ...	7	11½	11½			
	Pakhawal ...	2	5½	5½			
	Musa ...	3	6	6			
	Minah ...	7	6½	6½			
	Daffar ...	9	10	10			
	Miani Gondal ...	9	7½	7½			
	Rutto Kala ...	3	7	7			
	Vairowal ...	2	3	3			
	Melowal ...	1	8	8			
	Pindi Rawan ...	3	8	8			
	Abdal ...	1	8	8			
	Uppi ...	4	8	8			
	Khan Mohamudwala	6	3½	3½			
	Deowal ...	10	9	9			
	Chak Kazi ...	2	6½	6½			
	Khojao Salah ...	1	4	4			
	Salam ...	6	14¾	14¾			
	Hujjan ...	4	11	11			
	Bhikhi Khurd ...	4	10	10			
	Mako Dhudi ...	3	5	5			
	Chawa ...	26	15	...		15	With the exception of 18 miles of Salam and 4½ miles of Dhori the demarcation was all done in previous years.
	Lalyani ...	23	27	24		3	
	Nabi Shah ...	6	5¾	¾		5	
	Marallanwali ...	9	8	...		8	
	Kot Moman ...	12	19	...		19	
	Dhori ...	7	17	14¾		2¼	
	Ghullapur ...	3	6	...		6	
	Matilah ...	22	17	...		17	
	Samranwali ...	4	4	...		4	
	Bhagtanwali ...	7	4	...		4	
	Mangni ...	6	7	...		7	
	Ishar ...	3	8¾	8¾		...	
	Total Shahpur District ...	223	324	233¾		90¼	

GUJRANWALA DIVISION.

RESERVES.—*concluded.*

District.	Name of Forest.	Area in square miles.	Boundary. Length in miles.	Demarcated. Length in miles.	Demarcated. How demarcated.	Remaining to be demarcated.	Remarks
	Proposed Protected.						
Jhang.	Shahkote ...	6	9	4	Interrupted trenches	5	All the demarcation done was during the present year.
	Ghari ...	11	1	...	,,	1	
	Shadiwala ..	11	...	...	,,	...	
	Saidpur ..	10	...	...	,,	...	
	Butwali ...	10	...	...	,,	...	
	Firwanwali ...	13	...	...	,,	...	
	Kazianwali ...	9	5	5	,,	...	
	Ragri ...	9	4½	4½	,,	...	
	Masrana ...	10	...	...	,,	...	
	Karana ...	11	...	...	,,	...	
	Gilluana ...	11	2¾	2¾	,,	...	
	Ahliuwali ...	12	4	...	,,	4	
	Uchkorara	6	4½	...	,,	4½	
	Total Jhang .	129	30½	16	...	14½	
Sialkot.	Talianwali ...	.	.1	1	Mud pillars ...	...	
	Gulabgarh	.	...	...	...	...	
	Total Sialkot District. ...	...	1	1	...	...	
	Grand total of all Districts ...	456	513¾	394	...	104¾	

LAHORE DIVISION.

Demarcation Statement.

Name of Reserve.	Demacarted. Up to 31st March 1884. Miles of boundary.	During 1884-85. Miles of boundary.	Total. Miles of boundary.	Area in square miles.	Remarks.
1. Changa Manga ...	37	...	37	28	(1) By masonry pillars at important points—Pottery pillars and trenches at others.
2. Shahdera-cum-Jugian	16	...	16	2	(2) By masonry pillars at important points—Mud pillars and trenches.
3. Jhoke ...	18	2¾	20¾	4	(3) Do. do. do.
4. Sadhanwali ...	9	...	9	1	(4) Do. do. do.
5. Mozang ...	1	...	1		(5) Wire fencing.
6. Sarai Amanat Khan	5	...	5	3	(6) Masonry pillars at important points and mud pillars between.
7. Bohoru ...	4	...	4		(7) Do. do. do.
8. Nag ...	5	...	5	1	(8) Do. do. do.
Total ...	95	2¾	97¾	39	

MULTAN DIVISION.

Demarcation Statement, 1884-85.

Name of Range and Sub-Range.	No. and areas in square miles		DEMARCATED.						Balance.	Remarks.
			Up to 31st March 1884.		During 1884-85.		Total			
	No.	Area.	No. of pillars	Length in miles.	No. of pillars	Length in miles	No. of pillars	Length in miles		
Reserves.										
Multan Range.										
Serai Sidhu Sub-Range	6	53	106	80	...	..	106	80	...	This 80 miles of 20 ft. road is all cleared of roots, and 106 pacca pillars at corners.
Lodhran Sub Range	7	12	...	47¼	..	½		48¼	...	This is 48¼ miles of 20 ft. road.
Mailsi Sub Range	4	45		54½	...	...	...	54½	...	54½ miles of 20 ft. road.
Unreserved Area.										
Multan Range.										
Mailsi Sub-Range	5	6	.	55	..	...	...	55	...	55 miles road of 5 ft. wide.
Lodhran Sub-Range	1	1			...	3½	...	3½	...	3½ miles road of 10 ft. wide
Muzaffargarh Range.										
Alipur Sub-Range ...	1	5	.	9	...	...	...	9	...	This 9 miles road of 10 ft. width cleared through the jungle.
Do. ...	2	4	..	...	...	6½	...	6½	...	6½ miles road of 20 ft. width cleared through the jungle.
Dera Ghazi Khan Range.										
Rajanpur Sub-Range	3	9	.	14½	...	...	...	14½	..	This is a line cut round rakhs, 5 ft. in width.
Do ...	3	16	..	27	.	1¼	...	28¼	...	Do. 10 ft. do.
Dera Ghazi Khan ...	1	3	310	10	...	...	310	10	...	This is a road 20 ft. wide. mud pillers at angles.
Total ..	33	154	416	2,97¼	...	11¼	416	3,09½	...	

MONTGOMERY DIVISION.

Demarcation Statement, 1884-85.

Name of Range.	No. of Reserves and acres in square miles.		Demarcated.									Remarks.
			Up to 31st March 1884.			During 1884-85.			Total.			
	No.	Area.	No. of pillars.	Length in miles of 20′ boundary cut through Forest.	Length in miles of boundary trenching section 1 × 1.	No. of pillars.	Length in miles of 20′ boundary cut through forest.	Length in miles of boundary trenching section 1 × 1.	No. of pillars.	Length in miles of 20′ boundary cut through forest.	Length in miles of boundary trenching section 1 × 1.	
Reserves.												
Montgomery Okara and Chichawatni Ranges...	20	87	...	176	...	...	...	...	...	176	...	This 176 miles of demarcation is a road 20 ft. wide cut round the forest; 55 miles of this road were cleared of roots during the year. This added to total of 1882-83 viz. 97½ + 55 = 152½ miles cleared of roots, leaving 23½ miles to be cleared. Nothing has been done towards clearing the above 23½ miles of roots, as it is considered unnecessary to do so, the road being seldom or never used except by an occasional foot passenger.
Montgomery Division.												
Montgomery reserve ...	...	5	...	...	...	...	...	4	...	...	4	
Mohamedpur ...	...	3	...	...	*3	...	...	...	...	...	3	
Gushkori ...	...	6	...	...	*4½	...	...	...	...	...	4½	
Satghara ...	...	3	...	...	*3	...	...	1½	...	...	4½	
Chaukian ...	...	2	...	...	*1½	...	...	3	...	...	4½	
Okara ...	...	6	...	...	...	...	...	1¾	...	...	1¾	
Bagiana ...	...	2	...	...	...	...	...	3	...	...	3	
Bibipur ...	...	1	...	...	...	...	...	1¼	...	...	1¼	
Kohla ...	...	2	...	...	...	...	...	2½	...	...	2½	
Kamman ...	...	4	...	...	...	...	...	5½	...	...	5½	
Mirdad ...	...	5	...	...	...	...	...	5	...	...	5	
Burj Jewa Khan ...	...	7	...	...	...	...	...	3	...	...	3	
Harrupa ...	...	3	...	...	...	...	...	2½	...	...	2½	
Unreserved area.												
Bucheki ...	1	8	...	9	...	...	...	...	...	9	...	This is 9 miles of 20 ft. road marked at angles by numbered posts. Roots have not yet been extracted.
Total ...	21	144	...	185	11½	...	...	33¼	...	185	44¾	

* This work was completed during 1883-84 but by some error not shown in statement accompanying Annual Report for that year.

APPENDIX B.

ANNUAL PLANS OF OPERATIONS FOR THE YEAR 1884-85.

HAZARA DIVISION.

PROPOSALS.	HOW FAR CARRIED OUT.
DEMARCATION.	
Repairs to existing pillars in all ranges.	Completely.
GRAZING.	
a—LEASING.	
Kagan Range.	
Leasing of 26,168 acres from 1st April 1884 to 1st November 1884.	
Grazing on the Amani system on 7,773 acres from 1st April 1884 to 1st November 1884.	Ditto.
Grazing on Settlement Rights,—2,076 acres.	
Siran Range.	
Leasing— ... ... 9,330 acres.	Ditto.
Settlement grazing ... ... 5,995 „	
Dunga-gali Range.	
Settlement grazing ... ... 1,605 acres.	Ditto.
Khanpur Range.	
Settlement grazing ... ... 746 acres.	Ditto.
b.—CLOSED AGAINST GRAZING	
Kagan Range.	
Closing of 21,470 acres in which fellings took place in 1877.	Ditto.
Siran Range.	
Closing of 5,661 acres burnt over in 1875.	Ditto.
Dunga-gali Range.	
Closing of whole area except that burdened with Settlement Rights.	Ditto.
Khanpur Range.	
Closing of whole area except that burdened with rights	Ditto.
REPRODUCTION—ARTIFICIAL.	
Kagan Range.	
The formation of a number of small deodar nurseries in the autumn of 1884	Ditto.
Siran Range.—Nothing.	Ditto.
Dunga-gali Range.	
The formation of a number of small nurseries of deodar and other species.	Ditto.
Dibbling in of 40 acres in natural forest of Tejwal.	Orders were issued in October, and the Ranger reported that the work had been carried out. Subsequently it was ascertained that only ½ an acre had been operated on.
Khanpur Range.	
Formation of small nurseries.	Completely.
FOREST IMPROVEMENT.	
All Ranges.—Cutting of creepers where necessary.	Not carried out.

PROPOSALS.	HOW FAR CARRIED OUT.
EXPLOITATION.	
Kagan.	
Launching of 2,000 logs.	Carried out; 2,133 logs launched
Clearing the river of stranded logs.	Postponed till April 1885.
Siran Range.	
Selection felling of 12 chir trees.	20 trees felled
Dunga-gali Range.	
Selection felling of 33 biar trees	75 ditto
Ditto 25 paludar trees.	122 ditto.
Khanpur Range.	
Selection felling of 6 chir trees.	2 ditto.
Felling of 1,968 acres forest trees, yielding 39,500 maunds fuel, as per working plan	Not carried out, as no purchaser came forward.
ROADS.	
Repairs to existing roads.	Carried out
BUILDINGS.	
Repairs to Dunga-gali and Changla-gali houses	Ditto.
MISCELLANEOUS.	
Utilization of grass from the rakhs of all Ranges closed to grazing.	Ditto.

RAWALPINDI DIVISION.

DEMARCATION.	
Murree Range.	
Five remaining reserves to be completed.	Three forests completed.
15 protected forests to be also demarcated.	17 forests demarcated.
Kahuta Range.	
Two reserved forests and 14 protected forests to be completed, pillars and marks to be cleared to a distance of 10 ft. radius	Entirely
GRAZING.	
b.—CLOSING.	
Murree Range.	
Nil	
Kahuta Range.	
All areas over which rights do not exist to be closed throughout the year.	Carried out.
Fatehjang Range.	
Portions of Kherimar, Kawagarh and Khairi-Murat reserves to be disposed of after a rest of several years.	Northern slope of Kherimar given for encamping-ground, and eastern end of Khairi-Murat for the Imperial Assemblage.
Rawalpindi Range.	
Portions of the Margala Rakh will be sold, and the part assigned to the Military authorities will be cut as usual.	Carried out.
Murree Range.	
The supply of grass for encamping-ground on the cart road will be kept up.	Carried out.
Kahuta Range.	
4 encamping-grounds on the main road from Kahuta to the Lachman ferry to be supplied.	Carried out.
REPRODUCTION—ARTIFICIAL.	
Fatehjang Range.	
Several plots enclosed many years ago, and, so far only some in plough lines, to be trenched and resown.	Not carried out, but a separate area of about 12 acres treated with phulai seed.

PROPOSALS.	HOW FAR CARRIED OUT.
Rawalpindi Range.	
5 plots enclosed in Margala and Maira Reserve will be treated in the same way as indicated for Fatehjang Range. Barakao is included in above.	Only Barakao was taken in hand and about 1 acre sown in contour trenches.
Murree Range.	
Pinus excelsa will be freely sown in Seribari reserve.	Not done; no seed.
Longifolia will be sown in Reserve Salgraon.	Carried out; proved a failure
Deodar seed will be sown in Bhurhan reserve.	Carried out; proved a failure.
Kahuta Range.	
Acacia modesta seed will be sown in Chilla Chera Reserve.	Phulai seed was sown and germinated
FOREST IMPROVEMENT.	
Exclusion of foreign cattle from the Murree and Kahuta reserves.	Carried out.
Fatehjang Range.	
Camels, goats and sheep will be excluded from the Kala Chitta protected forests, and the granting of permits for small pieces of wood used in making up handles for plough and whip handles will be refused.	Carried out.
EXPLOITATION.	
Selected trees of pinus longifolia will be sold from the Murree and Kahuta Range	Carried out.
Fuel for the Murree Brewery will be supplied from the Kachut forests in the Lakot Jandala Range.	Carried out.
Murree Range.	
Firewood will be supplied from the forests of Saligraon, Baraoh, Kharatian, Chariban, Samli and Ambane forests.	Carried out.
The supply of charcoal will be met from the Patriata proposed reserve.	Do.
Kahuta Range.	
The supply of charcoal will be met from the Bagham reserve, and the Chilla Chara and Kerl proposed reserves will be drawn on for the supply of firewood to the town of Rawalpindi. Requisitions for inferior brushwood for lime kilns will be met from the forests of Dharjama and Gora-gali.	Do.
Rawalpindi Range.	
Requisitions for brushwood for lime kilns will be met from the Margala Reserve.	Carried out.
Fatehjang Range.	
A portion of the southern slope of the Kala Chitta range will be given to Sujan Singh for the collection of dry wood, and permits for brushwood for brick kilns for the Public Works Department, Military Branch, will be confined to the "Butah" portion on northern slope, while the "Nawa" portion will be set apart for the supply of brushwood to Artillery native drivers and camp-followers in the Cantonment of Cambellpore	Carried out.
Permits will be issued for firewood from the west end of the Kala Chitta forests to meet the requirements of Attock and Cambellpore.	Carried out.
ROADS.	
Murree Range.	
Inspection paths through the Kachut and Samli forests will be repaired.	Not carried out; only the Dana road and paths through Seribari reserve repaired.
Kahuta Range.	
An old pathway in the Sang forest will be repaired.	2¼ miles of pathway done.
Buildings.	
A few huts for subordinates will be built.	Not carried out.

CHAMBA DIVISION.

PROPOSALS.	HOW FAR CARRIED OUT.
DEMARCATION.	
The plot of land in compartment 2 of Kalatope forest, known as Sheras, to be demarcated out by pucca pillars, it being wrongly included at the time the working plan was made. Area about 1½ acres.	Done.
Another plot in compartment 12 to be bought out when compensation is settled by State authorities.	Compensation not settled by State authorities, but land taken over in anticipation with consent of Superintendent of Chamba.
Kainthli—Rights of villages to be settled in this forest if possible.	Not done. Superintendent of Chamba asked that it might be put off for the present.
REPRODUCTION.	
Pangi Range.	
Nurseries to be made in the following forests:— Shaorani. Mandál. Chao. Nildhar. Ajog. Shaor. Sagalwas	The Forest Ranger reports that these have all been made; they will be inspected during 1885.
Upper Ravi.	
The nurseries in Chatri, Khanni, Padri Bohar to be kept fenced, and blanks resown in November 1884.	Done.
Kalatope Range.	
Experiments to aid *natural reproduction* by terracing under seed-bearing trees in Kainthli and Kalatope forests.	Done in some 20 places in each forest.
In *Kalatope* Forest all nurseries to be resown and enlarged, and one new one made.	Done; 10,374 deodars and 1,204 walnuts put out, and all nurseries resown and fenced, and the new one made.
Some 10,000 plants to be planted out into compartments 7, 8, 9, 20, and 21.	
Experimental sowing on a small scale of deodar and oak.	Done in compartment 6 (deodar) and compartment 1 (oak).
In *Kainthli* all old nurseries to be resown, and one or two new ones made. More box seed to be sown.	Done; 3 new nurseries made.
Experimental sowings of deodar to be made with deeper working of the soil.	Done.
FOREST IMPROVEMENT.	
Upper Ravi Range.	
Large poplars to be cut out of Kundi forest at Bassu, and villagers encouraged to take away "killar" for firewood so as to open the way for natural reproduction.	Done; 333 poplars felled.
Kalatope Range.	
Kalatope Forest.—Oaks, &c., to be girdled and cut out of compartments 11, 12, and 22.	Done; 3,301 trees of all sizes were felled, 115 were thinned so as to let in light, and 825 were girdled.
Kainthli Forest.	
Compartments Barai and Sarakwala to be cleared of everything but deodar and tos before planting takes place.	Only *Barai* was cleared, quite enough as an experiment; the other compartments will be treated on a different plan, and it will be best to wait till the working plan provides for this.

PROPOSALS.	HOW FAR CARRIED OUT.
EXPLOITATION.	
Panji Range.	
Dead trees to be cut out in any forest, logs to be got ready and launched when an officer can go there in 1885.	Done; 688 dead trees were felled in 9 forests and 205 windfalls logged. It is expected that some 4,000 logs will be obtained.
Upper Ravi Range.	
10,000 sleepers to be delivered at Shahdera from an old contract and 10,000 more to be delivered at water's edge if possible.	The 10,000 were delivered less 357 lost; of the new contract only 3,824 were delivered at water's edge and sent down to Shahdera where they arrived on 27th May. The rest of the sleepers were nearly ready, but could not be got out in time before the snow came down and covered them. Sleeper shoot ½ a mile in length made and two extraction roads made.
Extraction roads to be made and a sleeper shoot.	
Bakani slide expected to be finished during the year and auxiliary slides made in forest.	Owing to unexpected difficulties, bad weather, and want of experience in such works, the slide could not be finished during the year. 5,600 running feet were completed; there still remain some 7,000 feet to be finished in 1885.
	Several earth slides were made for extraction of logs to head of large slide.
Kalatope Range.	
Kalatope Forest Timber works. A few mature deodar to be felled in compartments 12, 13, 15 and 18. Old scantlings to be offered at reduced rates.	11 Deodars felled. Old scantlings reduced in price; very little sold, must be sold by auction.
Kainthli Forest.—Usual timber works for Dalhousie market.	Carried on as usual. 38 deodars felled and sawn up.
COMMUNICATIONS AND BUILDINGS.	
Kalatope Range.	
Kalatope Forest.—Roads to be kept in repair, a new one to be made through compartments 15, 17, and 18 if found available.	Done. New road not made funds having come to an end; it can stand over for the present as no work is going on.
A forester's hut to be made at Bannikhet if possible.	As funds were short this was not made.
Kainthli Forest.	
Several roads to be made in Barai and Sarakwala compartments. Forest house to be put in order.	Done; 4 roads in all, some 5 miles long, made at about Rs. 16 per mile. Forest house re-roofed. Fireplace repaired.

BEAS DIVISION.

DEMARCATION.	
Dera Range.	
The Forest Settlement Officer will probably return from furlough in October 1884, and, in accordance with the order contained in Punjab Government letter No. 298, dated 20th July 1883, and para. 2 of letter No. 299 of the same date, prepare a separate record for each forest demarcated in the Kangra Tahsil in 1880-81 and in the Hamirpur Tahsil in 1882, describing the nature and extent of the rights of Government and private persons interested, in accordance with clause 3 of Section 28 of the Forest Act. On completion of this record a report will be submitted with a list of the forest blocks describing their boundaries, for publication in the Gazette.	The Forest Settlement Officer has been engaged on this work in the Kangra Tahsil since his return from furlough.

PROPOSALS.	HOW FAR CARRIED OUT.
Drafts of Notifications under Section 29 will be prepared and rules under Section 31 will, in accordance with Section 77, clause (2), be sent on to Government for sanction of the Government of India before final promulgation	
Boundary pillars round the reserve in the Dera Range will be repaired, and the boundary lines where necessary cleared.	Carried out.
Nurpur Range.	
The Tatal forest reserve, ⅔rds of which is composed of chil and ⅓rd of miscellaneous trees, will be divided into 10 blocks of about 120 acres each, taking natural boundaries as far as posible such as nullah ridges, &c. The object of this proposed division into 10 blocks is to select $\frac{1}{10}$th of the trees in one block for felling each year in rotation under a forest revolution of 100 years, the miscellaneous forest to be also converted into chil forest by sowings.	The proposed division of the Tatal reserve into 10 compartments of 120 acres each, to be worked in succession, was not carried out owing to practical difficulties and other work; but the crooked and inferior chil trees were selected and marked for improvement fellings in part of one compartment.
The boundary pillars in this range will be repaired, and the boundary lines cleared if required.	Boundary pillars were repaired and lines cleared as proposed.
The remaining claims to land in compensation for land included in the reserved forests in Nurpur will be finally settled.	These claims were nearly all settled.
River Range.	
The Bagarian and Mullanwal sissu plantation will be divided into blocks of 50 acres each by cleared lines 20 ft. broad as directed in letter No. 373, dated 15th May 1884 from the Conservator of Forests, with the view of facilitating the working of these fuel plantations as coppice, and also of exterminating the pigs which infest them and injure the surrounding crops.	This work was postponed till 1885-86.
Pucca pillars will be erected at the principal corners of the Gagriwal Rakh and the boundary posts round the Bagarian and Mullanwal plantation and the Wazir Bholor, Nadaon and Noushera depôts will be repaired.	This work was not carried out, but will be taken up during 1885-86.
GRAZING—*a.*—LEASING.	
Dera Range.	
The grazing dues will be collected as usual by Departmental agency from the Gaddi shepherds who graze their flocks in the enclosed forests of the Dera and Hamirpur Tahsils of this Range, also from the Gaddi shepherd who has the privilege of grazing in two portions of the Lohara and Darni Reserves. The grazing will not be leased in any of the forests, as Departmental management is found more conducive to forest conservancy and brings in more revenue. Half of the Karnpur and Bindrabun bamboo forests will be open to grazing for right holders of cattle during the dry season, the whole of these forests being closed during the rains in accordance with the forest settlement records. The zemindars both in Kangra and Hoshiarpur have the right of free grazing in the unreserved forests. In Hoshiarpur the Gaddi shepherds pay the usual fee to the Forest Officer for grazing their flocks in the unreserved forests, and the amount thus collected is distributed proportionally to the villages grazed over.	Proposals carried out.
Nurpur Range.	
As in the Dera and Hamirpur Tahsils.	Proposals carried out.

PROPOSALS.	HOW FAR CARRIED OUT
River Range	
The grazing of cattle in the Gagriwal Rakh will also be managed by Departmental agency The owners of fields surrounding the Bagarian and Mullanwal plantations will be allowed to graze their cattle free of charge for one year in these plantations, but to be stopped at once in the case of any fire occurring as directed in Conservator's letter No 373, dated 15th May 1884	Proposals carried out
b—CLOSING	
Dera Range.	
The forest reserves in the Dera Range aggregate 17 292 square miles, those in the Una Tahsil 14 square miles and the Karnpur and Bindrabun Bamboo Forests, which are included in the Dera Range, cover 9 9 square miles The reserved forests in the Dera Tahsil will, as usual, be entirely closed to grazing In the Lohara and Darni forest reserves of the Una Tahsil, Jangi Gaddi has the privilege of grazing on payment of grazing dues for about 1½ months every year in the following reserved areas:—*viz*, Tika Salana Tappa, Lohara, 757 ghomaos or about 586 acres, and in the Tika Bilanda, Thapal Tappa, Darni, 157 ghomaos or about 118 acres The whole of the Punjal reserved forest in Tappa Punjal and the remainder of the Lahora and Darni reserves will be entirely closed against grazing	Proposals carried out
Nurpur Range.	
The reserved forests in the Nurpur Tahsil aggregate 15 730 square miles, which will be closed as usual against grazing	Carried out.
River Range	
None of the 3 reserves in this range will be closed against grazing, but only those zemindars who have the privilege will be allowed to graze their cattle in the Bagarian and Mullanwal Plantations	Proposals carried out.
REPRODUCTION—NATURAL	
Nil	
ARTIFICIAL	
Dera Range	
Chil seed will be sown in many of the burnt patches in the Hamirpur forests In the Bakarar reserved forest about 9 acres will be planted with bamboo, 1,145 bamboo roots have been transplanted Bamboo cultivation will also be carried on in the Samlian reserved forest	Proposals carried out
Nurpur Range.	
In the Dhamtal bamboo reserved forest about 6 acres will be planted during the rainy season with bamboo roots, two being put out in each whole. In the Tatal reserved forest those patches previously sown with chil seed which failed will be resown this year The area to be operated on is about 25 acres	Proposals carried out
River Range	
In the Gagriwal rakh three acres will be sown with kikar seed in lines 10 feet apart	Proposals carried out
FOREST IMPROVEMENT	
Nothing proposed	Only chil trees were marked for felling

Proposals.	How far carried out.
Exploitation.	
Dera Range.	
In the Dhar Sid, Gangot and Chalsa forests in the Hamirpur Tahsil, 395 mature chil trees will be selected for felling and sold standing; this is the balance of 500 trees, the sale of which was sanctioned in Conservator's No. 1534, dated 3rd February 1884.	Only 241 chil trees sold in these forests and 154 in the Chabutra forest, as the purchaser would not take all the trees from the Dhar Sid, Gangot and Chalsa forests. 211 chil trees from which the gum had been extracted, were also sold from these forests.
In the Lohara forests 200 mature chil trees will be sold standing in the unreserved forests and 100 in the reserved forests, also 1,000 gum cut trees in the unreserved forests of Lahora and Darni.	337 mature trees were sold from the Lohara forest and 981 gum cut trees from the unreserved forests of Lohara and Darni.
The dead chil trees in the Dera, Hamirpur and Hoshiarpur forests within this range will be sold, 1,100 sal poles and ridge poles will also be sold from the Darni and Lohara forests.	52 sound and 529 gum cut chil trees were sold from the Dera forests and 150 chil trees from the Thatwal forest in excess of what was proposed.
Miscellaneous trees will be sold or granted free to zemindars according to the requirements and the rates fixed.	Carried out.
6,50,000 bamboos will be cut and brought to depôt from the Karnpur bamboo reserved forest.	5,52,863 bamboos only sold owing to the demand being less than was anticipated.
Nurpur Range.	
150 mature trees will be sold from the Amal, Karru Dholla and Solda chil forests.	Proposals exceeded with a view to increase the revenue.
500 gum cut chil trees will be marked and sold standing in the Nurpur forest. The dead chil trees will be sold.	Carried out.
Miscellaneous trees will be granted to zemindars according to their requirments.	Ditto.
50,000 bamboos will be cut and brought to depôt from the Dhamtal Bamboo Forest.	Proposals carried out.
River Range.	
The dead trees in the Bagarian and Mullanwal plantations will be sold.	
Roads.	
Dera Range—Nil.	
Nurpur Range.	
The road from the Nurpur Cart Road to Chitral will be repaired.	Carried out.
River Range.—The road leading from the Wazir Bholer depôt to the Beas Railway Station will be put in order.	Proposals carried out.
Buildings.	
Dera Range.—The buildings in this range will be repaired.	Ditto.
Nurpur Range.—All buildings will be repaired.	Ditto.
River Range.	
A guard's hut will be erected at the drift timber depôt at Dukh, and all buildings will be repaired.	Could not be carried out for want of a site. Done.
Miscellaneous.	
A protective embankment will be constructed on the right bank of a nala which runs along side of the Wazir Bholer depôt the object being to prevent further inroads into the depôt ground.	Proposals carried out.
The two outer lines of trees in the Bagarian plantation facing the Beas river will be fastened together with munj ropes to prevent river erosion.	Ditto.

Proposal	How far carried out.

KULU DIVISION.

Demarcation.	
Kulu Range.	
Final enquiry and record of rights in reserves in Kulu proper.	Final enquiry made and a record prepared.
Seoraj Range.	
Final enquiry and record of rights in reserves in Inner Seoraj	Final enquiry made and a record prepared.
Classfication of forests in Inner Seoraj which was incomplete in one kothi.	Classification of 24 square miles was completed by the Forest Settlement Officer.
Classification of forests in Outer Seoraj.	
Grazing. a.—Leasing.	
Kulu Range.	A portion of the Manali and Jagatsook forests were leased to sheep owners from Mandi.
Seoraj Range—Nil.	Nil
b—Closing.	
Kulu Range—Nil.	9,749 acres closed.
Seoraj Range—Nil.	Nil.
Reproduction—Natural.	
Will be encouraged by removal of chips and waste wood in Manalghan, Dangri Chasal, Bindraban, Kailiban and Pini forests, in which fellings have taken place, also in the Phulga forest where natural reproduction is not good. The chips will be burnt in the blanks when the ashes will be hoed up with the soil just before the seed ripens.	Carried out.
Seoraj Range.	
Natural reproduction will be encouraged in the Blajdhar Forest by prohibiting the collection of seed from standard trees and preparing the soil around.	Carried out.
Artificial.	
Kulu Range.	
The following table gives details of proposed transplanting operations:—	

Name of plantation.	Area.	No. of Seedlings.	Description of work.	
Manalghan		2,150	Planted in about 1½ acres recently added to the forest.	737 seedlings transplanted.
Manalgahr		...	1 maund prinsepia utilis seed sown along boundary to form a hedge.	1 maund prinsepia utilis sown.
Bai Padru			30 seers prinsepia utilis seed sown along boundary to form a hedge.	1 maund prinsepia utilis sown.
Dani Deo		7,500	Transplanted into area left incomplete last year.	
Chasal		4,500	Into blanks where seed was sown last year.	50,708 seedlings transplanted.
Bindraban		1,862	Into area incomplete last year and filling blanks.	1,862 ditto

Proposals.	How far carried out.
Annexed is a table giving plan of autumnal sowing operations which will greatly depend upon the quantity of seed to be obtained.	

Name of plantation nursery.	Works.	Seed to be sown.
Chajoga ...	3 nurseries to be formed.	3 mds. Deodar.
Upper Chasal...	Seed to be sown in lines and 3 nurseries to be made.	4 do.
Shalin ...	3 nurseries to be made.	2 do.
Manalghan and Dungri from blanks caused by fellings.	Broad cast sowing.	1 do.
Brunudhar ...	Sowing in lines and nurseries.	3 do.
Deoban ...	Ditto. ...	3 do.
Fojal ...	Ditto. ...	2 do.
Shapeni ...	Ditto. ...	2 do.
Area above Lot village Maraja Kothi.	2 nurseries to be formed.	2 do.
Sandhar ...	3 new nurseries to be formed.	3 do.
Phni Kais ...	1 ditto ...	½ do.
Bundraban Rupi	3 nurseries ...	1 do.
Somachalon ...	Sowing in lines which succeed admirably in thisplantation, and formation of 3 new nurseries.	4 do.
Phulga ...	Restocking existing nurseries.	1½ do.

39 maunds 8 seers deodar seed sown and 27 nurseries formed.

7 maunds 14 seers deodar seed sown and 8 nurseries formed.
4 maunds 22 seers deodar seed distributed.
A nursery formed at Samsi and sown with 20 seers sissu.
Do. at Pandrabis and sown with 20 seers.
Do. and sown with 36 seers box.
3 nurseries were formed in Muling and Kardang containing 18 seers deodar and also devidiar, kail, rai and tos seed.

Experiments.	
Sowing of cedrus atlantica, ribes grassularia, rubus rubrum, rubus idœa, rubus fructicosus and paliurus aculeatus in Manali forest garden. Grafting olives at Samsi and sowing of tali seed. Sowing seed of kail, rai, tos, karshu, deodar and devidiar in the Muling and Kardang Forests in Lahoul.	Carried out. All failed with the exception of paliurus aculeata, of which a few plants survived the winter.

PROPOSALS.	HOW FAR CARRIED OUT.
Seoraj Range.	
Transplanting of deodar seed during the rains:—	

Name of plantation.	Description of work.
Blajdhar ...	2,310 deodar seedlings transplanted in blanks.
Bakriala ...	110 do. do.
Salano ...	1,200 do. area unstocked.
Jibi ...	210 do. do.

3,830 seedlings transplanted.

Autumnal sowings of deodar will much depend on the quantity of seed obtainable:—

Name of plantation.	Nurseries to be made.	Deodar seed sown.
Blajdhar ...	2 nurseries	1 Md. deodar seed.
Bakriala ...	2 do.	1 do. do.
Jibi ...	1 do.	½ do. do.
Ragopur landslip, last sowings a failure.	1 do. and sowing in lines	20 seers do. 20 do. kail. 10 do. rai. 10 do. tos.

8 maunds 3 seers deodar seed sown in 12 nurseries.

Nurseries of oak, kail, and rai were formed at the site of the new tahsil at Banjar.

FOREST IMPROVEMENT.

Kulu Range.

Young kail will be thinned out of Dudlu where suppressing young deodar. Rai and tos trees will be ringed in the Manalghan Forest, and the zemindars will be encouraged to remove them.

155 kail saplings cut out of Dudlu Forest and 50 chil trees were cut and 100 lopped in the Somachalaon Plantation.

Seoraj Range.

The lopping of kail to one-half for manure in the deodar forests of Nagadhar, Pollerdhar and Blajdhar will be allowed in places where the deodar reproduction is good instead of granting "sulie" pine needles.

200 kail trees were lopped to ⅓rd their height in the Blajdhar Forest and loppings given to zemindars for manure.

EXPLOITATION.

Kulu Range.

287 green deodar trees will be felled in the Manali Forests, partly for conversion into logs and partly for sleepers.

157 green and 181 dry deodar will be felled from the Rupi Forests for conversion into sleepers.

383 trees felled and with dry timber found in the forests converted into logs and sleepers.

Seoraj Range.

Nil.

PROPOSALS.	HOW FAR CARRIED OUT.
ROADS.	
Kulu Range.	
The road from Chasal will be continued to Shalin Plantation, a distance of about 2 miles, and 5 miles of existing road will be improved and repaired.	8 miles of new road constructed and 2 miles of old road repaired.
Seoraj Range.	
2½ miles inspection path will be repaired.	Carried out.
BUILDINGS.	
Kulu Range.	
The Phulga Forest house will be completed, and probably the house at Naggar.	Phulga house was nearly completed, but the scheme for building a house at Naggar has been made over to the Public Works Department.
Existing buildings will be repaired if necessary.	Done.
Seoraj Range.	
Proposals for dismantling the forest house at Jibi and building a Ranger's hut will be submitted.	Not carried out.
Also proposals for taking over the District Rest-house at Jibi.	
BUNDS.	
Kulu Range.	
Proposals with estimate will be submitted for the construction of bunds on the Beas and Parbatti.	Carried out.
MISCELLANEOUS.	
Seoraj Range.	
A general map of Kulu with additional detail and containing the Forest boundaries will probably be completed.	
Seoraj Range.	
Efforts will be made to restrict the damage done to kail forests, chiefly in Outer Seoraj, by over-lopping, and the Forest Guards have been set carefully to watch for such cases. Repeated warnings have now been given and punishment in case of infringment of order may form a wholesome deterrent.	Carried out; the Naib Tahsildar promises to punish any man convicted of lopping after due notice has been given.

BASHAHR DIVISION.

DEMARCATION.	
Demarcation of selected areas in Tranda, Kilba, and Neogli ranges.	12½ square miles, comprising the Kilba range, were permanently demarcated.
GRAZING.	
Nil.	Nil.
REPRODUCTION—ARTIFICIAL.	
Tranda Range.	
4 nurseries will be formed and sown with deodar seed in the Nachar Forest, and 2 nurseries will be formed and sown with deodar seed in the Stalindi and Guthrung forests.	Nurseries were made in the following forests:—Panwi, Nachar, Guthrung, Tranda, Jani, Runang, Tenden, Ramni, Yani, Sapni, Kumkumi and Darkali.
10 acres of fencing will be repaired.	
A nursery will be made in the Tranda Forest.	Transplanting and sowing in patches was carried out in Runang, Sapni Kumkumi, Panwi, Nachar, Guthrang and Yani.

PROPOSALS.	HOW FAR CARRIED OUT.
Kilba Range.	
Nurseries will be made in the Tickrn, Sapni, Panwi and Runang forests.	Nurseries and orchards at Kilba and Nachar were watered and weeded. Fences at Panwi, Nachar, Stalinchi, Tranda and Runang forests were repaired. Nurseries at Kilba, Ramni, Yani, Sapni, Kumkumi, Jani, Runang, Panwi and Tranda were fenced.
50 maunds of seed will be collected.	20 maunds seed collected.
FOREST IMPROVEMENT.	
Nil.	Nil.
EXPLOITATION.	
2,000 deodar trees and 600 blue pine trees to be felled.	1,916 deodar and 102 blue pine trees felled, of which 1,408 were converted into 5,623 logs.
ROADS.	
An inspection path from Sapni to the Tenden forest, about 10 miles long, will be made, and existing paths and roads repaired; slides will be kept in repair.	4 miles of road made; existing roads and slides repaired.
BUILDINGS.	
Building a forest house at Poonang and 5 foresters' huts in Pandrabis, Tranda and Neogli Ranges.	House at Poonang built and 3 huts built, one in the Tenden forest, one in the Pandrabis Range, and a third at Tranda in the Tranda Range.

JHELUM DIVISION.

DEMARCATION.	
It was proposed that if Government sanction was received during the year larger areas should be closed in both the Jhelum and Shahpur Districts.	As Government have not accorded their sanction nothing has been done under this head.
The external boundaries of the present reserves in the Jhelum District were to be repaired, and the tracts burdened with rights and owned by private persons inside the reserves to be demarcated and pillars erected.	The external demarcation of the reserves was completed by building anew 927 masonry pillars and repairing 1,518 pillars during the year. The appended statement shows the number of pillars erected in each range comprising the Reserved Forests:—

Range.	PILLARS.		
	Built anew.	Repaired	Total.
Jhelum ...	334	520	854
Pind Dadan Khan	593	998	1,591
Total ...	927	1,518	2,445

In respect of internal demarcation nothing was done beyond laying down in the field temporary bench marks round such tracts inside the reserves of Garat, Paniala, Jindi and part of Nili. These marks were fixed by the District Patwaries and the Deputy Commissioner asked to depute some higher official to verify the Patwaries' work.

Proposals.	How far carried out.
Grazing—a.—Leasing. The two Belas Pira Ghaib and Saila to be managed by Departmental agency; all other rakhs and belas which are not closed against cattle to be leased by the Deputy Commissioner.	Belas Pira Ghaib and Saila were as usual worked under the "Amani" system and all the other rakhs and Belas in the Jhelum, Shahpur and Gujrat Districts, with the exception of the areas entirely closed against grazing, were leased through the respective Deputy Commissioners in accordance with the instructions laid down in Financial Commissioner's Book Circular XV of 1879, and the amounts for which they were sold all recovered

b.—Closing.

The following tables exhibit the closed areas:—

Closed entirely against all kinds of cattle.

District.	Rakhs and Belas closed.	Area. Acres.	Area. Square miles.	Remarks.
Jhelum.	Rakh Garat	2,150	27	Rakh Thallala closed during 1881-84 because no contractor could be found, has been leased for 1884-85. Rakh Kot Kalan also closed during 1883-84, has unfortunately been leased for 1884-85 by Mr D'Arcy, apparently by an oversight. The result is that all the seedlings, large numbers of which sprung up, are reported by the Ranger to have been completely destroyed by the cattle.
	Do. Pamala	1,376		
	Nili (part)	6,000		
	Jindi (Do.)	2,700		
	Drengan (part)	2,500		
	Sagar	906		
	Gandhala (part)	1,800		
Gujrat.	Bela Rahian	6		
	Khanpur	2		
	Kotian Kalan	5		
	Mong	40		
	Vatabalian	22		
	Total	17,516	27	

Closed against camels, goats and sheep only.—

District.	Rakh and Belas closed.	Area. Acres.	Area. Square miles.	Remarks.
Jhelum.	Ban Samali	1,350	23½	Rakh Kot Kalan, which was entirely closed against all kinds of cattle during 1883-84, has this year been opened by Mr D'Arcy to all cattle excepting camels, goats and sheep.
	Karangal	1,370		
	Jindi (part)	2,800		
	Parera	3,235		
	Drengan (part)	3,216		
	Kot Kalan	2,089		
	Reserved Belas	1,124		
Gujrat.	All Belas	500	1	
Shahpur.	Kheri Sodhi	2,135	28	
	Anga	3,726		
	Mardwal	4,467		
	Makrumi	4,500		
	Total	33,602	52½	

Reproduction. To establish a plantation in Rakh Garat and sow shisham, phulai, and kikar during the rainy season of 1884-85.	An area of about 2 acres was formed and sown with shisham and a little phulai and kikar seed, but owing to insufficient rainfall at the proper season seedlings failed entirely. Blanks in plantation at Ban Faqirulla were filled up, and the shisham seedings supplemented with sowings of phulai land kikar.
The seedlings of shisham and mulberry, from nursery established in Gandhala to be planted out, and some further area to be sown with shisham, phulai and mulberry.	16,820 shisham seedlings from 2 to 3 years of age were planted out (at intervals of 4 feet) with complete success. The seedlings were taken up from the nursery with balls of earth surrounding the roots, and were watered for a few weeks after being planted out.

PROPOSALS.	HOW FAR CARRIED OUT.
	In addition to the above a plot of 6 acres was worked up with hoes and sown with shisham, phulai, olive tallow, box, carob and pine in separate seed beds, of which box and olive did not at all germinate, and only about 25 per cent. of shisham seed germinated. The phulai, tallow and carob germinated freely, and the seedlings are flourishing, but nearly the whole of the pine seed was carried off by birds and mice.
	About 500 pine seedlings were planted out and are thriving.
	Cactus plants were put round the nurseries at Garat, Ban Faqirulla and Gandhala, with a successful result.
Sowing Upper Hill slopes of Rakhs Gandhala and Tilla with pine seed.	250 pine seedlings were planted out on the Dilur hill in Rakh Gandhala, which are doing well.
Restocking of blanks in plantation at Bela Pira Ghaib and operating upon a further area.	An area of 13 acres of blanks was restocked with shisham seed sown partly in strips and partly on ridges with fair success, excepting a plot of about 2½ acres where floods destroyed the plants. A fresh plot measuring 2½ acres was worked up and sown with shisham seed with a view of forming a nursery for the ensuing year. But one acre of the area operated upon has heavily suffered from the effects of floods in the river.
	On the banks of a "Nallah" 3,000 willow cuttings were put down. The flood destroyed about one-third of them, but the rest have established themselves.
	High jungle grass which injured the growth of young plants in Bela Pira Ghaib was removed.
BUILDINGS AND ROADS.	
The usual repairs.	The two Forest houses at Jhelum, Office building, Dilur rest-house, Drengan Forest hut and Jhelum depôt huts were repaired, and the building of the Forest Ranger's hut at Gandhala completed.
	Two roads leading up the Dilur Forest house were thoroughly repaired.
(9) Additions to Drengan hut and the erection of a rest-house on the summit of the Diljabba hill.	New verandahs added on to Drengan hut. Nothing done in the way of building a rest-house on Diljabba hill.

GUJRANWALA DIVISION.

DEMARCATION.	
Gujranwala District.—Protected Forests.—Where adjoining village lands, boundary to be demarcated by interrupted trenching.	Not done, as it is proposed to make extensive grants from these rakhs to the Mazbi Sikhs during the year 1885-86.
Unreserved Forests.—To separate the proposed reserves from the proposed protected forests by a demarcated line.	Not done. No data to determine the line.
Gujrat District.—Reserved Forests.—One remaining mile of boundary of Rakh Rasul to be demarcated by interrupted trenching.	Not done. Portion been recommended by Commissioner of Rawalpindi Division to be given to village.
¼ mile of boundary of Rakh Gohar to be settled.	Done.

Proposals.	How far carried out.
One mile of boundary of Minargarh to be settled.	Not done, *vide* para 12 of Report.
180 pillars to be erected at salient points in boundary of Phalian Reserves.	Not taken in hand till end of February 1885; will be completed during 1885-86.
Shahpur District.—50 miles of boundary of Bhera Rakhs to be demarcated by interrupted trenches.	Only 6 miles completed, *vide* para. 15 of Report.
Jhang District.—30½ miles of southern boundary of Jhang Rakhs to be demarcated by interrupted trenches.	Only 16 miles completed.

Grazing.

The following areas to be leased out to grazing:—

District	Reserved	Protected	Unreserved.
Gujranwala		89,969	42,302
Gujrat	18,519		5,083
Shahpur	..		1,42,920
Jhang ...	...	...	81,802
Sialkot ..	...	...	105

Entirely.

The following areas to be closed against grazing:—

District.	Class of Forest.	Acres.	
		Partially.	Entirely.
Gujranwala	Reserved	929	.
"	Protected.	.	
"	Unreserved .	18,988	...
Gujrat ...	Reserved	1,644	12,305
"	Unreserved. ...	1,822	

Entirely.

Reproduction and Improvement.

To be closed, areas felled in 1883-84.	Done
To keep closed 5 acres and plots fenced for observation of natural reproduction.	Done
To fence and keep closed areas to be felled in 1884-85.	Done.
Gujranwala District.—Petty cultural operations to be continued in Chichra and Kikranwali.	Done; some small plots trenched and sown in extension of last year's work, and 1,922 transplants of sorts put out
Gujrat District—Pabbi reboisement.—To trench and sow fresh area in the basin of the Dhokanwali kas.	Operations extending over 95 acres carried out.
Failures of previous years to be resown.	Done
All bunds and trenches to be kept in repair.	Done
Part of Bela Kotli Gohan to be ploughed and sown.	Done.

Roads and Buildings

Gujrat District.—Path through some of the reserves to be straightened.	Path through Rakh Dhul done
Bridle paths in Pabbi to be made.	Those made kept in repair.

PROPOSALS.	HOW FAR CARRIED OUT.
Erection of accommodation for subordinates, as far as funds will permit, to be taken in hand.	Quarters in Bannu commenced and will soon be completed. Houses in the Gujranwala Range, River Range and Phalian Range repaired.

LAHORE DIVISION.

DEMARCATION.	
Changa Manga.	
A few masonry pillars round the Changa Manga Reserve will be repaired.	One pillar repaired.
Broken mud pillars round most of the rakhs will be repaired by zemindars.	19 pillars repaired along boundary of Rakh Gandian.
Pottery boundary marks round the Changa Manga Reserve want renewing, but there are none in store with proper numbers on them.	This work was not done in 1884-85, but is now in progress, and is being carried out in accordance with suggestions contained in Conservator's letter No. 159, dated 17th April 1885.
Lahore Range.	
Mud pillars round rakhs will be repaired partly by Government and partly by zemindars.	163 new pillars erected, and 503 old ones repaired.
A patch of cultivation in Rakh Laddeke, and another in Bengali will be demarcated by a succession of trenches 10 ft. long × 1 ft. wide, all round the area.	Orders were issued to Forester, but no report hitherto received.
Sharkpur Range.	
Mud pillars round rakhs will be repaired, half by zemindars and half by Government.	590 pillars repaired.
A boundary trench round Rakh Mahr, partly filled up, will be cleared.	Not done.
Detached Range.	
Masonry pillars (5) round the Shahdera-cum-Jugian Reserve will be repaired.	Do.
The boundary trenches round Shahdera cleared another 3 inches deep.	Do.
Amritsar.	
Any masonry pillars that require repairs after the rains will be replaced round the Sarai Amanat Khan, Nag and Bohoru Reserves.	5 pillars repaired and 7 new ones built along boundary of Rakh Nag.
In place of mud pillars which always tumble to pieces during the rains, it is proposed to make 10 trenches at 10 ft apart round all the reserves which are bordered by cultivation, the trenches being sown with phulai, kikar and other seeds.	Not done.
GRAZING.	
(*a*) OPEN TO GRAZING; (*b*) CLOSED AGAINST GRAZING.	
The following tabular statement shows the required information under this head for 1884-85 :—	

Proposals.					How far carried out.
Range.	Areas entirely closed against grazing for the whole year.	Areas closed against grazing for only a part of the year.	Areas closed against camels only.	Areas closed against goats and sheep.	Areas open to grazing throughout the year.	
	Acres.	Acres.	Acres.	Acres.	Acres.	
Changa Manga ...	9,300	1,688	15,030	14,030	1,16,385	Areas closed in accordance with this table.
Lahore	1,061	1,281	9,771	1,281	12,140	
Sharkpur	1,857	1,288	5,832	5,832	69,893	
Detached	640	765	765	765	...	
Amritsar	612	...	1,912	1,712	1,712	
Total ...	13,470	5,022	33,310	23,620	2,00,130	

Reproduction.

Natural and Artificial.

Changa Manga Range.—Natural.

The whole plantation is closed for natural reproduction, and most of it has a very good growth of self-sown mulberry and sissu, and in places tún, ambaltas and siris; compartments 1 to 12, 19, 20, 23, 24, 39, 40, 43 and 44 are under coppice.

In Rakhs, 10 acres of Jalleke Reserve and 5 acres of Rakh compartments to be fenced in to see whether any natural reproduction will come up.

Improvement in growth already visible.

Rakhs Dhig, Dohli and Mundeki have a very good growth of self-sown seedlings of jhand and kikar, and are therefore protected against camel, sheep and goat grazing.

Last year 52 acres of Rakh Dhig were fenced in, and the natural reproduction of jhand, kikar, mulberry and pipal is very marked; this area will be kept closed this year too.

This area was kept closed.

All rakhs cut over last year to be closed against camel and goat grazing in order to protect the jhand and karil coppice which is 2 to 4 ft. high.

Done.

PROPOSALS.	HOW FAR CARRIED OUT
Artificial.	
All blanks in coppice compartments 9 to 12, 39, 40, 43, 44, 19, 20, 23, and 24 and a piece of 53 will be planted up with farash cuttings.	1,65,905 farash cuttings planted in compartments 9, 10, 11, 39, 40, 44, 52, 77 to 83, 87 to 89 and 92 to 94.
In Rakh Dhig, 52 acres fenced in 1883-84, and which was sown in patches with jhand, and kikar and farash cuttings succeeded so well that the experiment will be extended over 118 to 120 acres this year. In the closed portion more jhand, kikar, sissu, tán and mulberry seed has been sown, and 22,500 farash cuttings put out.	This area of 52 acres kept carefully fenced, and 18 acres resown with sissu, mulberry, jhand, tun, and kikar seed. An additional area of 112 acres sown with jhand, kikar, and shisham, which germinated freely, but subsequently suffered greatly from drought.
In Dohli and Mundeki Rakhs jhand and kikar seed will be sown along all the zemindars' water-courses.	Done
Lahore Range.—Natural.	
With the exception of a few acres in Rakhs Kot Lakhpat and Chandra all the others are open to grazing throughout the year, and there is therefore no natural reproduction in them.	
Rakhs Laddoki, Pajian, Bykuntha, Padri, Dehuri and Bengali cut over last year are coppicing freely, and are protected against camel and goat grazing. Four of these, *viz.*, Bykuntha, Bengali, Dehuri and Padri are Military grass preserves in which no grazing is allowed.	
In Kot Lakhpat 5 acres will be fenced, as an experiment to see what natural reproduction there will be.	Grass plentiful: tree growth improved, and natural seedlings of sissu and mulberry plentiful.
Artificial.	
The sissu and jhand sowings in Kot-Lakhpat during 1883-84 have been so successful, it is proposed to do the following works this year in Kot Lakhpat:—75 acres to be retrenched and sown with sissu and mulberry, of which 45 acres have been completed.	71 acres trenched and sown with sissu and mulberry, and whole area watered 14 times during the year. The seedlings are now one to three feet high.
All water-courses to be planted up with willow cuttings.	9,500 cuttings put out.
Farash cuttings, 35,000 5 feet apart in all places where there are no trenches, in blank places, and some amongst the sissu sowings, will be put out as soon as we have proper rains.	20,453 farash cuttings were planted out, of which 1,500 reported to have died.
Five acres to be sown with jhand, phulai and ber and *not* irrigated.	Only 1¼ acres sown with jhand, and phulai and not watered.
All blanks or failures in last year's operations to be resown with sissu and farash cuttings put in. In Chandra Rakh, 25 acres will be sown with jhand and phulai as this portion of the rakh has been twice flooded by the canal alongside.	50 acres of blanks resown with sissu seed. 9 acres in Rakh Chandra sown with jhand and phulai, but about one-half of the seedlings produced subsequently died in consequence of drought. Including the 11 acres previously sown, the total area operated upon is 20 acres.
Sharkpur Range.—Natural.	
Natural reproduction of kikar in the higher lands and amongst the karil and ber bushes where it is protected from cattle has been observed in Rakh Kothalla only. Rakhs Mahdho Das and Thatta Chore Shah cut last year are protected against camel and goat grazing; the coppice of karil and jhand is very good.	Done.
In Rakh Bowli Lena Singh where there are patches of young jhand, kikar and ber, cattle are not allowed to graze.	Do.
In Jhoke and Sadhanwali there are small patches of self-sown mulberry and ber, which will be protected.	Do.

PROPOSALS.	HOW FAR CARRIED OUT.
Artificial.	
In Jhoke plantation 194 acres taken over from Karm Din and others in exchange for land in Bengali, it is proposed to plant up 10 acres of low land with 10,000 willow cuttings; 2 acres will be made into a sissu nursery, and the remaining area (182 acres) will be planted up with nursery plants during January and February 1885, and sowings of sissu, jhand and phulai on ridges and trenches.	7,100 willow cuttings planted; all died for want of rain. Sissu nursery of 2 acres formed, but no planting done in January and February 1885, the seedlings not being sufficiently advanced. 78 acres sown with sissu and phulai, but the result is a failure, attributed to effects of drought.
Detached Range.—Natural.	
There is a very good growth of self-sown mulberry and sissu in the Jugian-cum-Shahdera plantation, which will be protected this year.	Done
The coppice (sissu and mulberry) is very good in the area felled last year, no cattle are let in here.	Do
The area (100 acres) being felled this year will be treated as coppice.	Do.
Artificial	
The low-lying lands will be planted up with willow cuttings as a protection to the piece of the plantation situated across the river	850 cuttings put out and more are being put out along the river bank
A sissu nursery in Mahmudbuti will be kept up and all blanks planted up from it.	Nursery established, and seedlings planted out in Jugian and Mahmudbuti.
Amritsar.—Natural.	
In Nag the coppice of sissu, mulberry, tunphulai, jaman, kikar and siris is very good, and the area under coppice will be closed against all grazing	Done.
There is a good growth of self-sown mulberry, sisus and tun seedlings in Nag.	
In Sarai Amanat Khan self-sown sissu, mulberry and siris and kikar are noticeable along the bank of all zemindars' khals running through the reserve Ber seedlings are in low-lying portions of the rakh land.	
There is no natural reproduction in Bahoru except in 200 acres closed, where ber has sprung up.	
Artificial	
50 acres of blanks in Nag will be trenched and sissu sown; about 9,000 willow cuttings put out on khals.	Not done
FOREST IMPROVEMENT.	
Changa Manga.	
No thinnings will be done this year, but all wind-fallen and dead trees will be cut up and stacked.	This has been done.
25 acres in compartments 14 and 15 will be cleared of the badly grown sissu and kana grass and will then be planted up with farash cuttings	23 acres were cleared, and planted up with 17,170 farash cuttings.
Rakhs Hanjra, Deosial, portions of Jelloki and Bugiana will be cut for the market	These rakhs were cut; yield and sale rates as below. Hanjra ... 2,45,470 c.f. @ 3 per % Deosial ... 71,918 " 1-12 " Jelloke ... 49,197 " 3-4 " Bugiana ... 39,904 " 3-8 "
Portions of compartments 43 and 44 will be sown with mulberry to form an undergrowth to the sissu.	Blanks filled up with sowings of mulberry and cuttings of farash.

PROPOSALS.	HOW FAR CARRIED OUT.
Standard trees will be left in all compartments being felled.	10 to 15 standards per acre left intact.
One acre of sissu nursery will be made in compartment 44 to furnish plants for compartments being cut for coppice.	Nursery successfully established.
The Gandian and Shahpur Rajbahas have been partly and are still being planted up with willow cuttings.	5,460 willow cuttings planted out with success.
Compartments 19, 20, 23, 24 and 40 will be felled for the P. N. S. Railway with 10 to 15 standard trees per acre left. If these and the compartments felled last year (39, 43 and 44) do not produce the full 10 lakhs c.ft. we have to give the P. N. S. Railway, then I propose with the Conservator's sanction to fell compartments 35, 27, 28, 34, 32, 37, 54 and 55.	Compartments 19, 20, 23, 24, 40 felled, and in addition compartment 35, 27, 28, 34, 32, 37, 54 and 55. Total yield supplied to Railway amounted to 10,30,000 cubic feet, @ 5-10 per 100 cubic feet. In addition about 32,670 feet of fuel, in 2½ billets and upwards of 10 inches diameter are in stock, and an offer of 5-12 per % cubic feet has been received for this fuel.
Lahore Range.	
Last year's and this year's sowing will be weeded and kana grass kept out.	This has been done.
The fencing round Kot Lakhpat will be repaired and extended by the material obtained from the dead kikar trees.	Fence kept in repair, and extended by 3,493 feet.
30,000 sissu transplants will be put out in Kot Lakhpat amongst the jhand and ber trees in the Rohi land near the Railway line.	Owing to deficient water-supply only 15,000 sissu plants were put out.
Both sides of the newly made roads in Kot Lakhpat will be planted up with farash cuttings and sissu seedlings.	This has been done.
Rakhs Rodeshah, Derachal and Tera will be felled for the market.	These rakhs were cut; yield and sale rates as follows:— Rodeshah ... 1,23,020 c.ft. @ 3-8 per % Derachal ... 17,841 „ 3-10 „ Tera ... 3,47,737 „ 3-4 „
Seed bearers will be left in Tera and Rodeshah.	758 standards left in Rodeshah and 738 in Tera.
Sharkpur Range.	
About 1,000 acres in Jhoke plantation and 280 acres of Toria will be thinned.	Thinnings carried out; yield as follows:— Jhoke ... 40,935 c.ft. sold @ 2-10 per % Toria ... 83,640 „ 3-8 „
Probable outturn 1½ lacs cubic feet.	Total outturn 1,24,575 cft.
Detached Range.	
In the carob plot Lahore, the sissu is being gradually thinned out as the trees die down and the exotic trees grow up, and the whole plot will be gradually altered into a pleasure-ground covered with foreign trees.	1,300 c.ft. shisham cut and stacked; 1,000 c.ft. of this quantity sold @ 5 per % cubic feet; 200 cubic feet used as fuel in Conservator's office, and 100 cubic feet in Divisional office.
Some hundreds of eucalypti and carob will be put out this year, also a large number of chil, pipal, cyprus and other ornamental trees.	The following were planted out— 930 Eucalypti. 794 Pine. 137 Terminalia arjuna. 110 Pongamia glabra.
In Jugian 100 acres will be felled for coppice leaving from 15 to 20 selected standards per acre. The wood will be sold in the Lahore market; about half this area is already cut.	96 acres cut Departmentally, yielded 2,61,660 cubic feet, sold for Rs. 11,504. The demand being great, and the plan of ten years rotation admitting of more extensive fellings, a further area of 66 acres was sold to Messrs. Coates & Co, which produced 1,40,500 cubic feet, sold @ 4-4 per %. This latter fuel has not yet been paid for nor removed.
All dead and wind-fallen trees will be removed from the Shahdera plantation and carob plot and cut up and stacked for sale.	Shahdera thinnings yielded 22,340 cubic feet, sold @ 4-10 per %, carob plot yielded 1,300 cubic feet; disposed of as mentioned above.

PROPOSALS.	HOW FAR CARRIED OUT
Amritsar.	
Sarai Amanat Khan Reserve will be cut for coppice this year and the wood sold to Mr. Robson at 3-12 per % cft. Standard trees and seed bearers will be left along all water-courses	350 acres were cut by Messrs Robson. & Co, and Jiwan Mal. The former purchased 1,58,850 cubic feet @ 3-12 per % and the latter 17,610 cubic feet at 3-13. The fuel in the uncut portion of the Rakh has been sold to Jiwan Mal during 1885-86, at 3-13 per % cubic feet.
In Nag the old water-courses and distributing channels not cleared for many years, will be cleared	Distributors over 235 acres were cleared @ Re 1 per acre. A new water-course 6,798 feet long also excavated at a cost of Rs. 89.
The moonj and kana grass removed from off all main water-courses.	
EXPLOITATION	
Changa Manga.	
The forest house and out-houses, and the Foresters' and Rangers' settlement will be repaired after the rains.	
A new seed godown and a well at Kala Jugian are much needed and plans and estimate will be sent in for sanction.	
6 stop dams will be built, *viz.*, 2 in Gandian, 2 in Shahpur and 2 in Thokar rajbahas. The 4 built last year worked very well.	Four masonry stop dams constructed: 2 in Gandian and 2 in Shahpur rajbaha.
A tramway has been purchased for Rs. 6,000 and will be used along the compartment roads for carrying the wood out of the forest to the Railway line for the P. N S Railway.	Additional tramway material, costing Rs. 3,143 has been purchased from Messrs. King, King & Co., Calcutta.
The compartment roads in Blocks 1 to 4 will be cleared of weeds and grass after the rains	
Proposals for two cattle-pounds to be built, one at Sheikham and one at Paimar, have been sent in for sanction	The case is still with the Deputy Commissioner
Lahore Range.	
The roads roughly made through Kot Lakhpat last year will now be smoothed off and trenches dug on both sides, which will be sown with sissu seed and farash and willow cuttings.	Trenches dug on both sides and sown with shisham
A guard's house will be built in Khana Nepal; if funds are available it is proposed to build one in Rodeshah and Pajian. The huts in Lakhowal, Laddeki, Chandra, Kot Lakhpat and Tera will be replastered after the rains and a new roof put to the house in Kot Lakhpat	Hut in Tera replastered; hut in Kot Lakhpat re-roofed. Guard's house in Khana Nepal built.
Sharkpur Range.	
About 8 miles of road through the Jhoke plantation, which has not been cleared for many years and is much over-grown with high kana grass, will this year be cleared.	Not done.
A new hut for a guard will be built in Rakh Kothalla. This is a valuable rakh, I have had the kikar trees counted in it, and find there are 2,332 trees worth some 6 or 8 thousand rupees. If funds are available a guard's hut will be built in Jhoke.	Not done.
Detached Range.	
Two more roads will be made at a small cost through Jugian plantation where the fellings are now going on. A winding road will be made through the carob plot where it joins the road to Government House.	A road made through Jugian, 5,082′ × 15′ at a cost of Rs. 13. A winding road through carob plantation, 315′ × 10′, made for Rs. 3.
The existing roads in Shahdera, Jugian and Mahmudbuta will be cleared of grass &c., after the rains.	This was done.

PROPOSALS.	HOW FAR CARRIED OUT
A hut for the forester and 3 guards will be made in Shahdera; at present they live in the village of Jugian	Not done
The mali's hut in carob plot will be repaired. A small kutcha well will be built in Mahmud-buti for watering the nursery.	Mali's hut repaired, well not constructed.
Amritsar	
Present buildings will be repaired; roads in Nag cleared of grass.	Not done
MISCELLANEOUS	
Changa Manga	
The following seeds will be collected during the year:—	Seed collected as follows —

Sissu	Phulai	Reru	Jhand	Kikar	Farash. if possible
Mds	Mds	Mds	Mds	Mds	Mds
50	10	10	20	5	1

60 maunds of green kikar pods were collected as directed by Conservator; the seeds when separated from the pods and dried weighed 8 maunds, the pods when dried weighed $11\frac{1}{2}$ maunds

Sissu	48 mds
Phulai	3 „
Jhand	10 „
Kikar	6 „
Tun	10 „
Mulberry .	4 „

Following seeds will be collected :—

Range	Sissu Mds	Phulai Mds.	Reru. Mds	Jand Mds	Kikar Mds	
Sharkpur	...	10	10	10	5	and farash seed.
Detached	50	10	10	10	5	and „
Amritsar	50	10	10	10	5	and „

The following seed collections were made :—

	Phulai	Jand	Kikar	Farash
Lahore Range		7 mds	5 mds	1 md
Sharkpur		$6\frac{1}{4}$ „	$2\frac{1}{2}$ „	..
Detached		...	12 „	...

MOOLTAN DIVISION.

DEMARCATION	
Mooltan District.	
Serai Sidhu Range —Repairs only	Not done
Mailsi Range —Posts of jhal (salvadora) to be placed at angles along the boundary of Sahoke reserve	Carried out
Lodhran Range —Roots to be extracted from boundary lines in the following reserves.— Shujaitpur, Kotwalak and Obaorah.	do do
Some compartment lines to be cut in all the Jalalpur reserves.	Five reserves were demarcated by temporary pillars Burnt portion of Jelalpur reserves was enclosed
Muzaffargarh District	
The following rakhs to be demarcated by a 10 to 15 ft boundary with jhal posts at corners, *viz*:—Sarvani Bela, Khudai, Alipur, Jalwala, Makanbela and Alwali	Work commenced in rakhs Jalwala, Alwali and Alipur
Dera Ghazi Khan District.	
Rakh Sanjar to be demarcated by a 20 feet boundary line.	Not done A boundary line $1\frac{1}{4}$ miles long and 10 ft wide was made in Rakh Dama

PROPOSALS.	HOW FAR CARRIED OUT.
GRAZING.	
Mooltan District.	
Serai Sidhu Range.	
No forests to be leased. Amani system employed.	Carried out.
Mailsi Range.—All forests closed for six months, the other six months open on monthly permits. Unreserved forests open all the year.	Carried out.
Lodhran Range.—Reserves Lodhran and Khanwah to be closed for the whole year.	Carried out.
In all other reserves grazing on yearly permits, with the exception of a small piece in Jalalpur that was burnt. In these latter forests only a limited number of cattle graze—well bullocks and domestic cattle; no large cattle graziers are allowed in.	
Muzaffargarh District.	
All rakhs to be closed for six months; to be opened during last six months on Amani system monthly permits.	Carried out.
Dera Ghazi Khan District.	
Rakh Deo Sheikani.—To be closed whole year, young growth.	Carried out.
Rakh Sanjar.—Closed for six months only.	Do. do.
Rajanpur Range.—All the rakhs in this range are leased.	Do. do.
REPRODUCTION.	
Natural.	
Fencing to be kept up round two pieces of 5 acres selected in Serai Sidhu for the purpose of natural reproduction.	Do. do.
Artificial.	
Mooltan / *Muzaffargarh* } *Ranges* { Filling blanks with farash cuttings.	Carried out.
FOREST IMPROVEMENT.	
Improvement fellings to be done if purchasers found for wood in the following forests :—	
Mooltan District.	
Serai Sidhu Range.—Reserve Bura Kotla. In compartment 8 to 14 all trees over 2 ft. in girth at 3 ft. high to be cut out.	1,54,000 c.ft. of fuel cut and removed from Dangra: 4,58,590 from Bura Kotla; 78,254 c.ft. fuel in Vinoi.
Vinoi Reserve.—Compartment 1, all trees 2 ft. in girth at 3 ft. high to be cut out.	
Dangra Reserve.—Compartment 2. ditto.	
Lodhran Range.—Jalalpur reserve to be thinned.	31,070 c.ft. cut.
Dera Ghazi Khan District.	15,800 c.ft. of fuel cut from Rakh Sanjar. 2,700 c.ft. from Rakh Dawa.
EXPLOITATION.	
BUILDINGS.	
Mooltan Range—One guard's house to be built near Pakka Haji Majid.	Carried out.
Mailsi Range.—One guard's house to be built near the Sahoke Reserve.	Materials collected.
Lodhran Range. One guard's hut to be made at Jalalpur.	Carried out.

PROPOSALS.	HOW FAR CARRIED OUT.
ROADS.	
Inspection paths and several bridges to be made over the nallahs in reserve Khanwah.	Carried out.
MISCELLANEOUS—Nil.	

MONTGOMERY DIVISION.

DEMARCATION.

It was proposed to demarcate the following reserves by trenches, *viz*:—

Okara Range.

Reserves Okara, Bagiana, Bibipur, Satghara, Chowkian, Kohla and Kamman.

Montgomery Range.

Reserves Mirdad and Burj-Jewe-khan.

Chichawatni Range.

Reserve Harrapa.

The demarcation of the following reserves was completed :—

Okara Range.—Reserves Okara, Bibipur Bagiana, Satghara, Chowkian, Kohla and Kamman.

Montgomery Range.—Reserves Mirdad and Burj-jewe-khan.

Chichawatni Range.—Reserve Harrapa.

Note.—In the annual plan of operations for 1885-86, reserves Kohla and Chowkian in the Okara Range, Mirdad in the Montgomery Range, and Harrapa in the Chichawatni Range, were shown as needing demarcation. These reserves were, however, completed during the current year. The demarcation consisted of 29¼ miles of trenching (Section 1 × 1) at a cost of Rs. 280-14-0.

GRAZING.

(*a*) *Leasing.*—Grazing in unreserved areas to be leased as usual by Deputy Commissioner, who will credit this Department with all revenue derived from this source.

(*b*) *Closing Reserved areas.*—All reserves (with the exception of Syedwala and Ranjit Singh) comprising an area of 70 square miles to be closed against all grazing for at least 8 months in the year, except in the event of great scarcity.

The usual fees per head to be charged on the admission of cattle.

This proposal has been carried into effect, the total revenue amounting to Rs. 31,361-8-0; the total amount realized, however, is only Rs. 26,638, thus leaving a balance of Rs. 4,724 outstanding against the district.

Owing to an exceptionally dry season it was impossible to carry these propositions into effect, and instead of the 70 square miles being kept strictly closed for 8 months, cattle were admitted at various periods.

The following is a detail of the area it was originally proposed to deal with, and which shows the periods for which they were kept closed :—

8 *square miles.*—Closed for 9 months, *viz.*, Reserves Kamman, Kohla and Chowkian.

24 *square miles.*—Closed for 8 months, *viz.*, Reserves Satghara, Aliwal, Montgomery, Burj, Jewe-khan and Dad Fatiana.

16 *square miles.*—Closed for 7 months, *viz.*, Reserves Nurshah, Mirdad and Darsana.

10 *square miles.*—Closed for 6 months, *viz.*, Bagiana, Bibipur, and Kalera.

12 *square miles.*—Closed for 5 months, *viz.*, Reserves Okara and Gushkori.

Unreserved areas.

The following rakhs comprising an area of about 11,200 acres to be closed against camels, goats and sheep :—

Kassowal.
Jujahore.
Kimianwali.
Boloana.
Bhagal Bhor
Maiganwah.
Kirath Madhol.

The rakhs were closed from 1st April to middle of September, when, owing to representations made by the Deputy Commissioner to Government, the Conservator agreed to release them, the growth being old and much browsed over; but directed that in future all rakhs closed to browsers must, in the first instance, be felled so as to provide for growth of a healthy nature.

REPRODUCTION.

Natural.

Nothing to be undertaken under this head as it is not proposed to carry out any fellings in reserved areas.

PROPOSALS.	HOW FAR CARRIED OUT
Artificial.	
Broadcast sowings during monsoon months if season favourable.	Owing to the failure of monsoon only a very little was undertaken in this respect; 19 acres were sown broadcast with "jhand" seed in the following reserves :— Mohamedpur, Mirdad Burj-jewe-khan, Harrapa, Dad Fatiana, Darsana, Kalera, Okara, Gushkori, Bagiana, Bibipur, Satghara, Chowkian, Kamman and Syedwala; 2,910 farash cuttings were also put out in various reserves. The operations have not been successful.
FOREST IMPROVEMENT.	
The cutting out of mature wood from the following localities :— *Okara Range.*—Rakh No. 15 and the Okara Reserve. *Montgomery Range.*—The area known as the "Police Rakh" and Rakh No. 3.	Rakh No. 15 in the Okara Range has been felled, the estimated outturn being 7,33,300 c.ft. of wood; operations were started in Reserve Okara on 22nd March, the work is still going on. In the Montgomery Range, the area known as the Police Rakh (the portion included within the boundaries of Reserve Montgomery) has been felled, the estimated outturn being 2,30,000 c.ft. Operations were then commenced in that portion of the Police Rakh which is outside the boundaries of Reserve Montgomery. The work is still being carried on. Rakh No. 3 has not been touched yet.
EXPLOITATION.	
Buildings.	
The building of one hut in Reserve Dad Fatiana for the accommodation of a guard, and the repairs, where necessary, of the existing huts.	These proposals have been carried out.

PHILLOUR DIVISION.

DEMARCATION.	
Sabathu Range.	
Endeavours will be made to complete the demarcation of the upper boundary, *i.e.*, between Forest and Cantonment land, but as this entirely depends on the number of aloe plants obtainable, which are difficult to procure, it is not possible to say how much will be done.	5,679 running feet of the upper boundary was planted with young aloe plants. One mile remains to be completed.
Phillour Plantation.	
A trench will be dug round Block IV and sown with phulai and jhand seed to form a thorny hedge for prevention of illicit grazing.	In Blocks I, III and IV 9,800 running feet of trench were sown with phulai and jhand seed
Kalesar Range.	
Nil.	Nil
GRAZING.	
a—LEASING.	
Sabathu Range.	
The entire forest area will be closed to grazing.	Carried out.
The grass cutting will be sold to the Commissariat Department.	Carried out.
Detached Range.	
Jullundur Plantation.	
The lease of grass cutting will be sold.	Carried out
Sarangwal Birs.	
The grazing lease will be sold	Carried out.
Phillour Plantation.	
The lease for grass cutting will be sold.	The lease was not sold as it was thought advisable to keep the grass as a protection to the young plants in the trenches.

PROPOSALS.	HOW FAR CARRIED OUT.
Ludhiana Plantation.	
Nil.	
Jagadri Plantation.	
The grass cutting lease will be sold if possible.	The grass cutting lease (including Sarkana) was sold for Rs. 300.
b.—CLOSING.	
Kalesar Range.	
The area containing sal (3,000 acres) which lies in the valley between the two ranges of Sewalik Hills will be entirely closed to grazing.	This was entirely closed.
The remainting portion will be open from 1st October to end of March	This portion was open from the commencement of the rains to end of March.
REPRODUCTION.	
Sabathu Range.	
The area of 200 acres already operated on since 1881-82 and the new extension of 20 acres in the east side below Station Hospital will be repaired where necessary, and further extension of 50 acres in the west side taken in hand.	The area of 200 acres was carefully gone over and all blanks repaired. In addition new seed beds were constructed over an area of 10 acres in blocks 11 and 13. The 20 acres in new extension of last year below Station Hospital were thoroughly repaired. A new extension of 50 acres on the west side was planted.
Young trees from the nursery will be planted out in favorable localities. The nursery will be restocked to supply young trees for planting out next rains.	783 young trees were planted out in the 200 acres blocks. 357 young trees of kainth, simbal, tun and bakain were planted round Circular Road. 1,069 young trees of various sorts have been raised from seed ; in addition to these 2,000 to 3,000 young carob plants have also been raised. 100 ceara rubber seed were also sown (no germination yet). The nursery garden was fenced round ; 962 running feet in all.
Detached Range.	
Phillour Plantation.	
The trenches over 128 acres (Block I and III) sown last year with kikar will be repaired where necessary ; young mango trees will be planted at intervals of 20 ft. in the trenches in every 20th trench in Block I.	*In Block I.*—20 lines=7,440 running feet of trenches were sown with phulai. 20 lines=7,588 running feet of trenches were sown with jhand. 20 lines=7,070 running feet of trenches were sown with shisham. Existing blanks in the trenches in the remainder of the block were sown with kikar seed (22,910 running feet). In this block 550 young mango trees from the nursery were planted at intervals of 20 ft. in every twentieth trench.
In Block 4 plough lines will be made in between existing lines of stools and sown with phulai and jhand.	*Block II.*—Existing blanks in the trenches were sown with kikar seed (29,300 running feet).
In Blocks 3 and 4 every alternate line of trools which are 1 ft. high will be cut flush with the ground to obtain a better style of coppice.	*Block III.*—Firstly every alternate line of stools (1,078) were cut flush with the ground and the plough lines were run in between every line of stools and sown with phulai and jhand (72,959 of phulai and 15,375 running feet of jhand).
	Block IV.—Alternate lines of stools were cut flush with the ground (11,078 stools) and the plough lines were run in between each line of stools, and sown with phulai, jhand and kikar. Phulai ... 56,150 running feet. Jhand ... 76,720 ,, Kikar ... 7,100 ,,
A nursery of jamun (large fruited kind) will be raised.	This nursery was made and several thousand young plants were raised.

200 caera rubber seed received from Ceylon will be sown as an experiment.

Owing to destruction by cattle I had the plants that escaped transplanted into the Forest Office compound. There are now about 750 ready for planting out this rainy season. 330 caera rubber seed were sown in the Phillour nursery, 384 mahogany seed were sown in the Forest Office compound.

Kalesar Range.

This forest merely requires protection.

Fires occurred in April and May by which 2,000 acres out of the 3,000 protected were burnt.

FOREST IMPROVEMENT.

Sabathu Range.

Nil.

Nil.

Kalesar Range.

The existing fire lines, enclosing 3,000 acres will be burnt, and the area inside strictly protected.

This was carefully carried out, but, as before stated, fires occurred in April and May, the result of incendiarism, by which 2,000 acres were burnt.

The fence which closes the entrance of the valley (1½ miles across) will be repaired and fresh seed of thorny creepers will be sown.

Carried out.

Two square miles of creepers were cut.

When the Conservator visited Kalesar in December 1884 I proposed that the protected area of sal (3,000 acres) should be divided into thirty compartments of 100 acres each, and that one compartment should be felled annually.

I commenced this work in March. First I surveyed the first section of the sal tract, a little over a square mile, with the plane table on a scale of 8 inches = 1 mile, then I marked off a compartment of exactly 100 acres. This I then divided into strips of 100 ft broad.

To this the Conservator agreed, after inspection of the forest, and on his return to Lahore issued written instructions as follows:—

"To fell an area of 50 acres in the Kalesar "sal tract in the following way:—Strips "parallel to the sides cut 100 ft. broad, then "leave a strip of 100 ft. forest, and then again "a strip of 100 ft. clear felling. The outturn "of the area as well as of sides cleared must "be carefully and strictly noted so as to serve "as the basis of a future working plan, &c."

Each alternate strip was then felled. This much was done up to end of March 1885. The work was continued in April and will be fully reported on when completed.

5.—EXPLOITATION—ROADS.

Sabathu Range.

All inspection paths (about 7 miles) in the old portion of 200 acres will be repaired.

Carried out.

Detached Range.

Phillour Plantation.

15 roads for communication will be made through the 4 blocks of this plantation.

Altogether 13 roads were made—
6 ... in Block I
4 ... " " II
3 ... " " IV

Ludhiana Plantation.

The two existing roads 24 ft. broad will be cleared and opened out.

This was done by the contracter who bought the grass.

MISCELLANEOUS.

Sabathu Range.

Nil.

The Forest hut in the nursery was repaired.

Dagshai.

The Cantonment land will be taken over and sowing operations commenced in June 1885.

400 acres of Cantonment land were taken over from the Military authorities.

Kalesar Range.

The Forest hut in the line will be completed and a masonry tank will be constructed for the supply of drinking water to the forester and guards.

The Forest hut was completed, but the tank was not built, as the staff arranged for their own water-supply.

River Range.

All timber launched by the upper river officer will be caught and rafted to sale depôt Phillour, together with the balance of logs left in transit depôts from last year.

Carried out.

No 922F, dated Simla, the 29th October 1886

From—C. J. LYALL, Esq., C.I.E., Officiating Secretary to the Government of India,

To—The Junior Secretary to the Government of the Punjab.

I AM directed to acknowledge the receipt of your letter No. 367, dated the 3rd ultimo, forwarding the Progress Report of Forest Administration in the Punjab for the year 1885-86, with His Honour the Lieutenant-Governor's review thereof.

2. The Report gives a graphic and clear description of the year's Forest Administration, and is, at the same time, as concise as circumstances will permit: the Statements appended are extremely accurate; the Review is appropriate, showing the great interest His Honour the Lieutenant-Governor takes in this important branch of the Administration; and, finally, both the Review and the Report have again been submitted with the usual punctuality distinguishing the Punjab Forest Administration, and which is highly appreciated by His Excellency the Governor General in Council.

The Government of India share the Lieutenant-Governor's satisfaction in learning that the scheme for a closer association of Forest and District Officers has, so far, succeeded above expectation, and it is creditable to all the Officers concerned that the change in the system of administration has worked smoothly and beneficially from the very outset. That the change would cause some additional labour was foreseen; but this will doubtless diminish as matters settle down in a groove. That the work will actually decrease, His Excellency the Governor General in Council is not prepared to anticipate; for, though it may lessen in one direction, the closer connection between the two branches of administration will, in all probability, result in a more careful and systematic management of the State property, involving, as a consequence, more constant consideration and study.

The arrangements described in paragraph 4 of the Report regarding yearly plans-of-operations commend themselves to the Government of India; but it appears to His Excellency the Governor General in Council that it should remain an open question—on which the Lieutenant-Governor's opinion is desired in the next annual review, by which time the scheme will have had a further trial—whether, and in how far, the Financial Commissioner should exercise executive control over the forests in the several Districts beyond that implied in his approval of Working-Plans and annual Plans-of-Operations.

His Excellency in Council observes with pleasure that His Highness the Raja of Chamba has shown his willingness to assist the Forest Department in the administration of his Forests, which, under a conservative and systematic treatment, such as that now secured for them, must eventually develop into sources of great future wealth to the State of Chamba. I am desired to request that the approval of His Excellency in Council may be conveyed to His Highness for the active assistance rendered by him to the Forest Administration.

3. The following is an abstract of the progress made during the year under review in the constitution of Reserved and Protected Forests :—

Class of Forests.	At the commencement of the year.	Added.	Excluded.	At the close of the year.	Percentage of Forests to whole area of Province (106,772 square miles).
	Sq Ms.	Sq. Ms	Sq. Ms.	Sq Ms	
Reserved Forests	1,015	67	14	1,068	1
Protected "	311	28	18	321	0·3
District "	2,908	558	757	2,709	3
Total ...	4,234	653	789	4,098	4
Area of Reserved Forests formed under *Leases.*	376	1	28	349	0 3
GRAND TOTAL	4,610	654	817	4,447	4

Excluding the area of Reserved Forests formed under the leases entered into with the Rajas of Chamba and Bashahr, the area of Reserved Forests amounted to 1,068 square miles at the end of the year. This shows that an increase has taken place in the area of Reserves within British territory of 53 square miles during the period under review, and it is observed that the reservation of more extensive areas in the Rawalpindi and Kulu Districts may be expected to take place during the current year. This is satisfactory; but, nevertheless, His Excellency the Governor General in Council desires that Sir Charles Aitchison's attention may be drawn to the fact that the area of Reserved Forests in the Punjab comprises only 1 per cent. of the area of the Province, against 7·24 per cent in the rest of the Bengal Presidency. At the same time, it is observed that some 20,000 square miles of forests and waste lands exist in the Punjab, which would seem to fall under the description of land which may be constituted Reserved Forest in Section 3 of the Indian Forest Act, and thus apparently to render possible a considerable addition to the reserved tracts. As yet, however, only 5·34 per cent. of these lands have been permanently settled under Chapter II of the Forest Act, and 1·60 per cent. under Chapter IV.

Under these circumstances, His Excellency the Governor General in Council regrets that His Honour the Lieutenant-Governor should concur in the view shown in paragraph 9 of the Conservator's Report to be held by the Financial Commissioner, which inclines to restrict the Reserves to comparatively small areas. It seems to His Excellency the Governor General in Council that "Forest and waste lands, such as those of the Muzaffargarh District, which have been declared at Settlement to be outside the requirements of the local population, and the Lahore rakhs, equally the property of Government free of all rights," may be managed with most advantage after they have been demarcated and received a definite legal position as Reserved or Protected Forests, and all rights over them have been settled. These Settlements, while they effectually define and protect the Government forest property, do not circumscribe the powers of the Local Government in the management of its Forest estate or in the utilization of its produce.

4. The permanent demarcation of forest boundaries has received the necessary attention, and the progress in this respect has been satisfactory. Moreover, from the remark in His Honour the Lieutenant-Governor's review showing the prompt action taken with regard to the demarcation in the Chenab Division, it is evident that the Punjab Government fully recognizes the importance of indisputable and well-defined boundary lines. The long-standing boundary disputes in Hazara have been finally settled.

His Excellency the Governor General in Council has examined with interest the revised statements of areas surveyed and unsurveyed, which give a clear picture of the progress made in Forest surveys, and show what has still to be effected in this respect. The progress made during the year under review has been satisfactory.

A revised list of Reserved, Protected, and District Forests, accompanied by an index map showing the distribution of the different classes of forests, has been completed during the year by the Working-Plans Branch of the Conservator's Office, and should prove of great value to future Forest Administration. The small scale map appended to the Report is very useful, and well executed.

5. The Working-Plans Branch has done excellent work. More or less detailed Working-Plans were completed, or nearly completed, by the end of the year for the Forests on the Upper Ravi, for Kalatop and Dadra, the Kainthli Forest, the Bannikhet Forests, those of Bakloh and Beyla, the Kalesar Forest in the Umballa District, and for Changa Manga. In addition to this, Working-Plans were prepared by local Forest Officers for the Bhera rakhs and the Shadera-*cum*-Jugian Plantation.

The collection of data for the preparation of Working-Plans for the Pangi Forests and the recently Reserved Forests in the Murree and Kahuta tahsils in the Rawalpindi District was commenced during the year by the local Forest Officers on the basis of memoranda of instructions drawn up in the Working-Plans Branch.

The thoroughness of the work connected with Working-Plans in the Punjab has been favourably noticed by the Officiating Inspector General of Forests, and His Excellency in Council desires to record his satisfaction with the progress made since the constitution of this important branch of the Forest Service.

The remarks made in paragraph 41 of Mr. Hill's Report clearly prove the necessity of attaching greater importance to the state of the market than has been done in the case of earlier Working-Plans, especially in the case of those prepared for Kalatop and Khanpur, the former of which had to undergo an early revision mainly because this point had been neglected.

6. The remarks on annual Plans-of-Operations, in paragraphs 45 and 46 of the Conservator's Report, have been read with great interest, and it is considered evident that a general improvement in the management must take place if the year's working is thus subjected to careful previous consideration and scrutiny. His Excellency the Governor General in Council entirely concurs with His Honour the Lieutenant-Governor's remark that, owing to the consultation between District and Forest Officers, which precedes the approval of the annual plans of working, there should be no departure from the lines laid down for the year.

7. The following is a comparative statement of the working of the criminal clauses of the Forest Act :—

Year.	Number of new cases.			Percentage of Convictions to total number of Cases decided by the Courts.
	Taken into Court.	Compounded under Section 67 of the Forest Act.	Total.	
1885-86	1,114	1,070	2,184	79
1884-85	1,074	831	1,905	75
Increase in 1885-86 ...	40	239	279	4

The number of cases of which the Courts took cognizance shows an increase of 10 over those of the previous year; but, at the same time, the percentage of convictions rose from 75 to 79 per cent. The number of cases compounded was 239 in excess of that for 1884-85. The reason for this is, to some extent, explained in paragraph 56 of the Conservator's Report. It is understood, however, that no real hardship resulted from the misuse of Section 67, and that its irregular application ceased as soon as the mistake was found out.

8. The large number of cattle annually impounded may possibly indicate that the pound fees are too low to act as a deterrent, and that people prefer the risk of a small fine to the constant employment of herdsmen. The Conservator favours this conclusion; but His Excellency the Governor General in Council shares His Honour the Lieutenant-Governor's opinion that it is impossible to argue with safety from these figures only, especially in years when a severe drought has increased the temptation to trespass.

9. The most satisfactory feature with regard to fire-protection is the decrease both in the number of fires which occurred in the Hazara Division and in the extent of the areas burnt. This is evidently due to the stringency of the law and the exertions of both Revenue and Police Officers. On the other hand, fires have been more frequent in the Multan Division, and the Conservator states that, under the existing law, it is practically impossible to punish the offences relating to fires. This difficulty would be removed if the Multan rakhs and belas were settled under the Forest Act. The fire-tracing of *Pinus longifolia* forests has not, it is reported, proved a success on account of the heavy fall of needles which takes place during May and June, by which the fire-lines are constantly and rapidly re-covered with inflammable material at the time of greatest danger. It will, under these circumstances, probably be necessary to place the traces entirely outside the limits of the *chil* forests.

10. The following statement shows, in square miles, the areas closed against grazing, as compared with those of the previous year:—

Year	Closed against Cattle.		Closed against browsers.
	Entirely.	Part of the year.	
1885-86 ...	513	338	1,139
1884-85	489	310	1,112
Increase in 1885-86 ...	24	28	27

His Excellency the Governor General in Council is glad to observe that the question of the formation of Fuel and Fodder Reserves is under the consideration of the Punjab Government. It would appear, from a perusal of paragraph 61 of the Conservator's Report, that the results aimed at by the establishment of Fuel and Fodder Reserves can be attained by a suitable management of the Forest areas already at the free disposal of Government, and that the broad outlines of such management have already been laid down in a Memorandum by the Conservator, dated the 7th of December 1883. It seems probable that all requirements can be met in the manner indicated, which is decidedly a more simple method than that implied in the formation of special Fuel and Fodder Reserves, and therefore commends itself to the Government of India.

11. The remarks on natural reproduction in the deodar forests, contained in the Conservator's Report, are, as His Honour the Lieutenant-Governor justly remarks, very interesting, and practical effect should, in the opinion of His Excellency in Council, be given in the several Hill Divisions to the proposal made by Mr. Minniken, Deputy Conservator, for clearing contour lines of shrubs and grasses in suitable localities, the more so that this Officer's observa-

tions regarding the dying out of deodar reproduction during the rains coincide with those made by Mr. Lemarchand, the Forest Officer in Kulu.

His Excellency the Governor General in Council, whilst fully acknowledging the difficulties to be dealt with and the advantages which would be derived if all fellings took place over advance growth of the most valuable species, is, nevertheless, not quite prepared to accept, without considerable reservation, Mr. Hill's doctrine that, for the majority of the forests producing deodar, a treatment by selection fellings (*Jardinage*) is preferable to some method based on regeneration fellings, which in most instances, where they have been judiciously executed, have resulted in a sufficient reproduction of the deodar forests. His Excellency in Council desires that this important question may be examined and fully discussed in professional circles.

His Excellency the Governor General in Council observes with satisfaction that the enquiries regarding natural reproduction in the Plains Divisions have not been lost sight of; that the experimental plots are kept carefully fenced; and that the results of the experiments are duly recorded.

12. The following statement shows the progress made in artificial reproduction :—

	Area, in Acres.			
	At the commencement of the year.	Added during the year.	Excluded during the year.	At the close of the year.
Regular Plantations ..	15,453	...	8	15,445
Cultural Operations ...	2,855	395	155	3,095
Total ...	18,308	395	163	18,540

The progress is small, owing to financial pressure, on account of which artificial reproduction was restricted. The account of the *reboisement* of the Pabbi should excite general interest. It is to be regretted that the *bands* in the Sar Begam Nala were washed away. His Excellency the Governor General in Council concurs with the Lieutenant-Governor in considering that, if provision for funds can be made, some of the more important *bands* should be constructed of masonry, so as to protect the intermediate weaker ones against a sudden rush of water.

The experimental sowings of *jhand* in the Montgomery Reserve have been noticed with great interest, and a further account of the result is expected in next year's Progress Report.

It is noticed that the preparation of the soil under seed-bearing deodar trees has, in the Chamba Division, resulted in the establishment of thousands of young plants. This is important, and the work should be largely extended to other Hill Divisions.

13. The following trees have been felled by Government agency :—

Description.	Number
Deodar	6,144
Boxwood	1,130
Other trees	266
Total in 1885-86 ...	7,540
„ „ 1884-85 ...	4,617
Increase in 1885-86 ...	2 923

14. The outturn of timber, fuel, charcoal, and bamboos has been follows :—

Description.	By Government agency.	By purchasers.	Free grants.	Right-holders.	Total.
Timber (cubic feet)	1,029,912	446,926	236,016	188,480	1,901,334
Firewood („)	1,837,857	6,275,565	...	..	8,113,422
Charcoal („)	13,527	...	...	...	13,527
Total ...	2,881,296	6,722,491	236,016	188,480	10,028,283
Bamboos (number)	824,151	28,845	...	23,775	876,771

The floods in the main rivers were again unfavourable; but, nevertheless, there has been an increase of 60,000 cubic feet in the receipts in depôts.

Appendix I contains a very interesting report of a timber slide constructed in the Bakani Nala, which evidences the great progress made in the working of the hill forests. The Changa Manga Plantation continues to be successfully exploited by means of a Decauville tramway.

The timber removed by right-holders is stated to have amounted to 188,000 cubic feet, and 236,000 cubic feet were given away in free grants.

15. The financial results compare with those of the previous year as follows :—

Year.	Receipts.	Charges.	Surplus.	Proportion of Surplus to Gross Revenue, per cent.
	Rs.	Rs.	Rs.	
1885-86	8,50,419	6,75,483	1,74,936	21
1884-85	7,49,352	5,58,070	1,91,282	26
Increase or Decrease in 1885-86.	+1,01,067	+1,17,413	—16,346	—5

The gross receipts show an increase of Rs. 1,01,067; and if the surplus is, nevertheless, Rs. 16,346 less than in the previous year, this is due to the fact that Rs. 31,000 were charged off on account of the Bakani slide, and Rs. 7,748 were expended on tramway plant for Changa Manga. Forest settlement and demarcation also demanded an outlay of Rs. 20,000 in excess of that in the previous year.

16. The deodar forests in the Mandi State are evidently doomed to rapid destruction under the provisions of a contract entered into by the State with a Trading Company, and His Excellency the Governor General in Council is pleased to observe that the Punjab Government has taken notice of this eventuality, which must seriously affect, not only the State in question, but the underlying country naturally dependent on the forest resources of Mandi.

17. His Excellency the Governor General in Council fully endorses the commendation of Officers implied in the concluding paragraph of His Honour the Lieutenant-Governor's review.

No. 923F.

COPY forwarded to the Inspector General of Forests to the Government of India for information, with reference to paragraphs 8, 9, and 10.

Appendix showing the discrepancies noticed in the Forms appended to the Report of Forest Administration in the Punjab for 1885-86.

FORM No. 55.

(*Outturn of Minor Forest Produce.*)

IN the "Abstract for District Forests," the value of "Grazing (acres)" under "Purchasers" is entered as Rs. 89,322, whereas the addition of the separate figures against that item in the body of the Form comes to Rs. 89,290. Similarly, the value of "Other Minor Produce" under "Purchasers" is entered as Rs. 3,583, instead of Rs. 3,585. This reduces the Total and Grand Total value of Minor Forest Produce, under "Purchasers," by Rs. 30.

FORM No. 56.

Timber and other Produce cut or collected by Government Agency.

(*Firewood and Charcoal.*)

The balance of Firewood at the close of the year in the Lahore Division is shown as 407,002 cubic feet; but these figures have been omitted in the "cubic feet" column under "Total of each Head." By this omission the "Total" 1,696,795 cubic feet cannot be arrived at.

G. C. B. Press, Simla.—No. 1088 H. D.—30-10-86.—487

Proceedings of the Honorable the Lieutenant-Governor of the Punjab in the Forest Department, No. 366, dated 3rd September 1886

READ—

The Progress Report of the Forest Administration in the Punjab for the year 1885-86 submitted by the Conservator with his letter No. 977 of the 30th of July 1886, and received on the 9th of August 1886.

REMARKS.—The report was submitted with commendable punctuality, and in accordance with the wish expressed in the review of last year's report has been rendered as brief as the prescribed form would allow. There appears to be no objection to the course adopted of relegating to Appendices matters which deserve a lengthy notice and fall without the proper scope of the report. The second of the Appendices annexed to this report, which covers 62 pages of print, contains a complete statement of the areas under forest management in the Province. It may be doubted whether this information finds an appropriate place in an annual progress report.

2. One of the chief points of interest in the report is the account given in paragraphs 2—6 of the working of the scheme for a closer association of Forest and District Officers. The Lieutenant-Governor learns with much satisfaction that so far the scheme has worked smoothly and beneficially. It was only to be expected that at the outset additional work would be thrown on both District and Forest Officers, but when once the system has been fairly established the work should diminish rather than increase. Some unimportant changes have been made in the Divisional charges, and the withdrawal of the Superintendent from the Chamba State is only noticed by the Conservator in connection with the fact that His Highness the Rája has given every assistance to the Forest Department and has shown his willingness to prevent damage in the unreserved forests of his territory.

3. There has been an addition of 26 square miles to the area of reserved forests, the increase being chiefly due to the notification of 37,383 acres in the Chenab Division. The hope expressed in the review on last year's report that the areas which will be treated as reserved forest in the Ráwalpindi District and in Kulu would be finally gazetted remains unfulfilled up to the present But both cases are now near completion. As regards the Lahore and Muzaffargarh Districts, His Honor concurs in the views expressed by the Financial Commissioner, and considers that reservation should be ordinarily confined to well-defined and compact areas such as those which will hereafter be demarcated as reserves on the new canals in the Mooltan, Montgomery and Gujránwála Districts.

The total area of protected forests was 321 square miles at the close as against 311 at the commencement of the year. In Kulu 83 square miles of 1st class and 188 square miles of 2nd class were selected and demarcated during the year under report; while in the Núrpur Tahsíl of the Kángra District an area of from 20 to 25 square miles was demarcated. In the Chenab Division there has been an addition of 17,950 acres to the protected forests. The orders regarding the demarcated forests in Murree and Kahuta will issue very shortly. The progress made in the marking out of boundaries is satisfactory, and the method appears to be economical. It is noticed that a delay has occurred in the Chenab Division, and it is hoped that the 61 miles of boundary preliminary marked can be completed by trenches without doing the work of demarcation over again. The attention of the Financial Commissioner will be called to the matter with a view to some revenue official being made available for the purpose of verifying the boundaries. Out of an area of 11,12,196 acres of gazetted forests, 9,24,937 acres have been surveyed in some form or other; while of a total of 83,81,833 acres of ungazetted land under forest management, 38,01,500 acres have been surveyed.

4. The working plan for the forests on the Upper Ravi in Chamba, the area of which is 71,008 acres, has been completed, and plans for an area of 4,660 acres in the neighbourhood of Dalhousie, and for the Kalesar Forest in Umballa which measures 11,829 acres, were finished by January last. The working plan of the Chánga-Mánga reserve, which included a revision of the existing plan for the plantation, was also carried out during the year. Other work is proceeding with a view to the preparation of working plans in Pángi of the Chamba Division, and in the Murree and Kahuta forests of the Ráwalpindi District, and the activity of the Working Plans Branch noticed in last year's review of the Forest Report continues unabated. The annual plans of operation have been for the most part followed, but drought in the Chenab and Mooltan Divisions and in the Montgomery District necessitated certain deviations. In future, however, owing to the consultation between District and Forest Officers which precedes the approval of the annual plans of working, there should be no departure from the lines laid down for the year.

5. The number of offences against the Forest law has risen from 1074 to 1114, the chief increase being under the head "unauthorized felling or appropriation of wood and other minor produce." In the Montgomery District alone 180 prosecutions were instituted against persons who, abusing the Financial Commissioner's concession, did not confine themseves to removing the tender shoots of the *ghand*, but lopped and tore down branches of all sizes. In compliance with the request made last year a return showing the number of cattle impounded has been drawn up. It appears that 42,801 head of cattle were impounded as against 40,132 in the year 1884-85. The drought which prevailed in some districts may account for the increase, but it is impossible to argue with safety from the figures that the present scale of the pound fees is insufficient to deter people from trespassing. The irregular practice of taking compensation in addition to pound fees is noticed, and His Honor is pleased to know that it has been stopped The number of fires has increased, but the area over which the conflagration extended has fallen from 22,055 to 16,717 acres. Fires continue in the Hazára Division, but the number has fallen from 23 to 11, and the area burnt over from 13,827 to 4,460 acres. This satisfactory diminution may perhaps be attributed to the practice of closing all lands burnt over, and to the suspension of all rights therein for five years. It is noticed that the information asked for by the Government of India in their Circular letter No 4 F. of the 14th of April 1885 has not been given, and no estimate of the extent of the forest areas which as a rule escape forest fires without the adoption of special measures for their protection is furnished. In Kulu 535 square miles escaped fire without the adoption of special measures, and as the total expenditure on fire protection is only Rs. 901, it may be said that the Punjab enjoys a peculiar immunity from the ravages of fire. The subject of grazing is now under the consideration of Government in connection with the question of fuel and fodder reserves, but it may be noticed that the areas closed entirely for part of the year, and against camels, goats and sheep, have all been considerably increased. The facts noted in the Lahore Division seem to call for some system of advance payment of grazing dues. The fencing operations of the year were limited in extent.

6. The conclusions drawn by the Conservator as to the natural reproduction of Deodars are interesting and are supported by the experience of the Divisional Officers of Kulu and Bashahr. Artificial reproduction was restricted owing to financial pressure. The total expenditure was Rs. 30,000, and there has been an addition of 240 acres to the area under artificial reproduction. The Pabbi Reserve suffered from a heavy fall of rain in August, which broke nearly every *band* in the Plantation. A suggestion is made that the larger and more important *bands* should be made of masonry, and as the plantation depends

chiefly on these *bands* for reproduction, there is no objection to the construction of masonry *bands*, if provision for funds can be made. In the Lahore Division some success has been attained, and it is satisfactory to note that the sowing of *jhand* seed in Montgomery promises well. Among exotics there has been no marked progress. The Eucalypti seem to thrive best when planted in clumps, and in future they should not be planted singly. The Box plants grow slowly, and the Salt Bush which it is understood is primarily intended for arid tracts is only reported to have flourished with the aid of irrigation. The Spanish Chesnut has borne fruit in Kulu and Bashahr.

7. The outturn of the forests, including reserves, protected and district forests, amounted to over two lakhs of tons. Of this, 28,81,296 cubic feet was removed by Government Agency; while in 1884-85 the amount thus removed was 24,99,555 cubic feet. As in the preceding year, the floods in the main rivers were not favourable, but there was a slight increase in the timber brought to depôt. There was a brisk demand for logs from the depôts, and 6,26,924 cubic feet were sold as against 5,80,873 in 1884-85. The local sales in the Hazára, Ráwalpindi, Chenab and Lahore Divisions were considerable. The Chánga-Mánga tramway has been extended, and its whole length is now 2½ miles. It was in use during the whole of the year, and 521,210 cubic feet were sold to the North-Western Railway. The other sales of fuel from the Chánga-Mánga plantation amounted to 1,47,530 cubic feet.

8. The financial results of the year show a revenue of Rs. 8,50,419 as compared with Rs. 7,49,352 in 1884-85, while the expenditure has risen from Rs. 5,58,070 to Rs. 6,75,483. The surplus is thus Rs. 1,74,936, or less by Rs. 16,346 than in the previous year. Under the items of expenditure may be noticed the Bakani slide which cost Rs. 31,000 and the extra tramway plant for Chánga-Mánga for which Rs. 7,748 was sanctioned. Forest demarcation cost Rs. 28,776, but in this is included the pay and allowance of the Forest Settlement Officer of Kángra.

In the Chamba Division there was a deficit of Rs. 52,562, but this, being due to the large timber operations in hand, will be recovered. The revenue of the year has suffered from the drought and the consequent difficulty experienced in the realisation of grazing dues. In Gujránwála District Rs. 25,942 were outstanding on this account; in Lahore the receipts fell from Rs. 40,655 to Rs. 28,169; while the reduction of area for clearances in Chánga-Mánga resulted in a falling-off in sales which amounted to Rs. 39,000 as compared with the sales effected in 1884-85. The outstandings of revenues are considerable, but the greater part of these should be collected when the seasons become more favourable. On the whole, the financial results are satisfactory. The extra expenditure has been on remunerative works, and the falling-off in revenue is mainly due to calamities of the season.

9. The experiment of silk culture at Chánga-Mánga failed during the year under report, and three-fourths of the worms were killed off by disease. It is suggested that further trial is unnecessary, as the villagers are not inclined to take up the industry. Considering, however, that the results in the years 1883-84, 1884-85 were satisfactory, and that there has been an outlay of Rs. 1,064 on the sheds, it seems desirable to continue the experiment at least for another year.

10. The case of the Mandi Forests referred to in paragraph 122 of the report is being disposed of in communication with the Commissioner Jullundur.

11 In conclusion, the Lieutenant-Governor desires to thank Mr Hill and the Officers of the Forest Department mentioned in paragraph 48 of the report for the work done during the year 1885-86.

ORDER.—Ordered that this Review be circulated as usual with the report;

Also that it be published in the *Punjab Government Gazette;*

Also that it be forwarded to the Government of India, in the Home Department (Forests), for information.

By order of the Hon'ble the Lieut.-Governor,

T. G. WALKER,

Offg. Junior Secretary to Government, Punjab.

Punjab Government Press Lahore- 4-9-86—404.

No. 977, dated 30th July 1886.

From—H. C. HILL, Esquire, Officiating Conservator of Forests, Punjab,

To—The Junior Secretary to Government, Punjab.

I HAVE the honor of herewith submitting in print the Annual Administration Report of the Punjab Forest Department for the year 1885-86.

2. In compliance with a request made by the Financial Commissioner, he has been supplied with a proof copy of the Report, in order that any remarks he may be pleased to offer may reach you for consideration, together with the Report.

TABLE OF CONTENTS.

INTRODUCTION.

Para.		*Page*
1.	Explanation of length of report	1
2	District Officers responsible for forest administration ...	*ib.*
3.	Districts to which Financial Commissioner's Circular 42 applies	*ib.*
4.	Management of the forests	*ib.*
5.	River Depôts, and Changa Manga excepted	*ib.*
6.	Working of the scheme ...	*ib.*
7.	Withdrawal of Superintendent from Chamba	2
8.	Changes in Divisional charges ...	*ib.*

CHAPTER I.

1.—Area.

(*a*).—*Reserves.*

9.	Forest settlements in hand and proposals under consideration ...	2
10	Register of reserves	*ib.*
11.	Corrections of areas.	3
12.	Additions and exclusions by notification	*ib.*
13.	Detailed explanation by divisions	*ib.*

(*b*).—*Village Forests.*

14.	Hazara village forests	4

(*c*).—*Protected Forests.*

15.	Protected forests in Kulu	4
16.	Settlement of forests in Kangra	*ib.*
17.	Forests of Shahpur-Kandi	5
18.	Protected areas in Gujranwala and Jhang	*ib.*
19.	Other protected forests shortly to be sanctioned	*ib.*
20.	Area at close of year ...	*ib*

(*d*).—*District and Unreserved Forests*

21.	Definition and extent of district forests	5
22.	Water-courses made in district forests	*ib*

2.—Boundaries.

23.	Boundary marks	5

CHAPTER II.

1.—Surveys.

24.	Corrected statements of areas surveyed	7
25	Work in Hazara and Rawalpindi	8
26.	Special Survey work in Chamba	*ib*
27	Sketch maps of Kulu forest ...	*ib.*
28.	Imperial Survey Branch in Bashahr	*ib.*
29.	Proposed map of Bhera Rakhs	*ib*
30.	Resurvey of Changa Manga	*ib.*
31.	Survey of Kalesar forest by Imperial forest Survey	*ib*
32.	Describes revised list of forests and map showing distribution	*ib.*
33.	Small scale map appended to report	9
34.	Delay in the attestation of Jhelum records	*ib*

2.—Working Plans.

35.	Working plan of Upper Ravi forests	9
36.	Other plans for Chamba forests and Kalesar	ib.
37.	Working plan of Changa Manga	ib.
38	Working plans prepared by Divisional Officers	ib
39.	Boundary description, and statement of all forests and waste lands with areas ...	ib
40.	Cost of special working plans	10
41.	Application of the Khanpur working plan	ib.
42	Bashahr working plan	11
43.	Bhora Rakhs „	ib.
44.	Changa Manga „ (application of)	ib

3.—Annual plans of Operations.

45.	Temporary plans of operations for 1885-86	11
46	Annual plans of operations for 1886-87	ib.

CHAPTER III.

1.—Establishment.

47.	Disposal of Gazetted Officers	12
48.	Services of Officers	ib.
49.	Rangers and protective establishment	ib.
50.	Office establishment	13
51.	Amalgamation of forest establishments	ib.

2.—General Protection.

52.	Forest offences	13
53.	Comparison with previous years	ib.
54.	Cattle impounded	ib.
55.	Remarks on cattle trespass	14
56.	Compensation for damage, taken in addition to pound fees	ib.
57.	Offences compounded under Section 67	ib.

3.—Forest Fires.

58.	Fire protection measures	14
59.		15
60.	Details for Divisions	ib.

4.—Grazing and Fencing.

61.	Fuel and fodder reserves	16
62	Areas closed	ib.
63.	Scarcity of grass	17
64.	Opening free of Montgomery reserves and other measures of relief	ib.
65.	Details for divisions	ib.

5.—Natural Reproduction.

66.	Remarks on treatment of deodar forests	20
67.		ib.
68.	Experimental closed plots in the plains	ib.

6.—Artificial Reproduction.

69.	Cultural operations restricted	20
70.	Work in Hazara	21
71.	Do. Rawalpindi	ib.
72.	Do. Chamba	ib.
73.	Do. Kangra	ib.
74.	Do. Kulu	ib.
75.	Do. Bashahr	ib.
76.	Do. Jhelum	ib.
77.	Do. Chenab	22
78.	Do. Lahore	ib.
79.	Do. Mooltan and Montgomery	23
80.	Do. Phillour	ib.

7.—Early Thinnings.

81	Thinnings, cutting of creepers, &c.	23

8.—Experiments.

82.	Seeds from Cape Colony	23
83.	Australian seeds	ib.
84.	Eucalypti	24
85.	Carob	ib.
86.	Acacia melanoxylon and Palinrus aculeatus	ib
87.	Box	ib.
88.	Lee garden, Kulu	ib.
89.	Spanish chestnut	ib.
90	Atriplex Nummularia	ib.
91.	European trees	ib.
92	Carob plot	ib.

9.—Communication and Buildings.

93.	General remarks	24
94.	Details for divisions	25

CHAPTER IV.

I.—Departmental Operations.

(a).—Working of the Forests.

95.	Outturn of the forests and removals or conversions by Government agency	25
96.	Timber and fuel account	26
97.	Working of the hill divisions	27
98.	Work in Hazara	ib.
99.	Do. Chamba	ib.
100.	Do. Kulu	ib.
101.	Do. Bashahr	28

(b).—Receipts in Depôts.

102.	Details for all rivers and depôts	28

(c).—Sales from Depôts.

103.	Depôt sales	29

(d).—Local Sales.

104.	Opening of small local depôts in Hazara	29
105.	Supply of fuel to Murree and Brewery	30
106.	Sales to Railway from Bhera Rakh	ib.
107.	Sales of fuel from plantations	ib.
108.	Minor local sales	ib.

2.—Removal of Produce by Purchasers.

109.	Timber and fuel	30
110.	Minor produce	ib.

3.—Free Grants of Forest Produce.

111.	Timber and produce removed by grantees and right-holders	30

4.—Import of Foreign Timber.

112.	Timber imported from foreign states	31

CHAPTER V.

Financial Results.

113.	General	31
114.	Revenue	ib.
115.	Expenditure	ib.
116.	Comparison of the year's transactions	32
117.	Explanation of differences by divisions	33
118.	Comparison of financial results	ib.
119.	Outstandings of revenue	34
120.	Other outstandings	ib.

CHAPTER VI.

General Remarks

121.	Silk culture at Changa Manga ...	34
122.	Report on the Mandi forests ...	*ib*
123.	Collection of exhibits for the Indian and Colonial Exhibition	35
124.	Ripening of seeds ...	*ib.*
125.	Kashmir river rules ...	*ib*

Statements exhibiting the Annual Accounts.

Form No. 49.—Area of Reserved Forests.
" " " — " of Protected Forests.
" " " — " of District Forests.
" " 50.—Register of breaches of Forest Rules.
" " 51.—Area of Forest tracts protected from fire during the dry season.
" " 52.— " of Plantations.
" " 53.—Trees felled by Government agency.
" " 54.—Outturn of Timber and Firewood.
" " 55.— " of Minor Forest Produce.
" " 56.—Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôt or sold locally
" " 57.—Abstract showing the value of Timber and other Produce at Sale Depôts.
" " 58.—Summary of Revenue of the different Divisions.
" " " —Summary of Expenditure of the different Divisions.
" " 59.—Account Current.
" " 60.—Revenue received and Outstandings on account of Revenue.
" " 61.—Outstandings and Liabilities on account of Contractors and Disbursers
" " 62.—Financial results.

Appendices.

Report on Bakani Slide	I
Statement showing the areas of reserved, protected and ungazetted forests and forests under District Officers arranged according to Forest Units .	II
Map of the Province showing forests and waste lands	III

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE PUNJAB,

FOR THE YEAR 1885-86.

INTRODUCTION.

Explanation of length of Report

THE Report for 1885-86 will be found to approach the limit of 30 printed pages as prescribed by the Departmental Code. It must be explained that with the headings and sub-headings laid down in the Code, it would scarcely be possible to compress the Report of a Province like the Punjab, with 12 executive charges, to any much greater extent. The Report might be limited, as suggested, to remarks explanatory of the tabular forms, if these statements embraced a complete record of the year's transactions, but this is not the case. An attempt has therefore been made, while complying with the Code, to make the Report as brief as the prescribed form seems to permit; and matters which would appear to deserve more lengthy notice, such as the Bakani slide and a corrected list of the forest and waste lands at the disposal of Government, have been added as Appendices. It is hoped this arrangement will meet the wishes of His Honor the Lieutenant-Governor, as expressed in para. 1 of the review of the Report for 1884-85, and be approved.

District Officers responsible for forest administration

2. During the year under review the Financial Commissioner's Circular No. 42, dated 1st August 1885, gave effect to the scheme for the closer association of Forest and District Officers. The Deputy Commissioner is now held completely responsible for the administration of all Government forests and waste lands: the local Forest Officer being his assistant in all forest matters.

Districts to which Circular applies

3. The districts to which the notification applies are—(1) Kangra; (2) Lahore; (3) Montgomery; (4) Mooltan; (5) Muzaffargarh; (6) Gujránwála; (7) Gujrát; (8) Jhelum; (9) Rawalpindi; (10) Shahpur; (11) Hazára. For the present it has not been found feasible to provide a Forest Officer for each of these districts, and consequently the Divisional Officer's charge, in some instances, extends to portions of two or more districts.

Management of the forests

4. The Financial Commissioner assumes the executive control of the forests within these districts; the duties of the Conservator being mainly those of inspection, distribution of provincial establishments, regulation of expenditure, and the giving of advice in regard to all questions of management. The yearly plan of operations submitted by the Deputy Commissioner is scrutinised and remarked upon by the Conservator before orders for its execution are passed by the Commissioner; and the file, complete for each district, is then laid before the Financial Commissioner for his approval. Subsequent alterations in the plan are only made with similar procedure and sanction.

River depôts and Changa-Manga excepted

5. The management of river depôts and the Changa-Manga plantation is left, as heretofore, with the Conservator.

Working of the scheme.

6. To complete the application of the scheme, it remains to amalgamate the district forest establishments, heretofore entertained by the Deputy Commissioner, with the regularly sanctioned forest establishments, and proposals to effect this will shortly be submitted. In other respects the Circular has been in full force; and, so far as can be judged, its working has been smooth and beneficial. Divisional Officers in the beginning regarded the scheme with some distrust, but beyond complaints from both District and Forest Officers that it involves increased work,

difficulties have not arisen. Both District and Forest Officers have taken up the new state of things with considerable patience, and in some cases with much zeal.

Withdrawal of Superintendent from Chamba.

7. During the year the Superintendent of the Chamba State was withdrawn, and His Highness the Raja left in independent charge. It is satisfactory to record that His Highness has given every assistance, and shown his willingness to prevent damage and waste in the unreserved forests of his territory.

Changes in Divisional charges.

8. The Gujránwála and Beas Divisions were re-named Chenab and Kangra, and a few minor alterations were made in Divisional charges, which now stand as in Government Notification No. 485, dated 4th November 1885. The timber depôt at Mooltan was transferred from the Chenab to the Mooltan Division; and the Trimmu drift timber depôt from the Jhelum to the Chenab Division.

CHAPTER I.—AREAS AND BOUNDARIES.

1.—Areas.

a.—Reserves.

Forest settlements in hand and proposals under consideration.

9. The Notification, declaring the 104 square miles of the Murree and Kahuta forests to be reserved, had not issued up to the close of the year; and, although the Forest Settlement operations in Kulu were completed in the autumn, the final report had not been received, nor had any of the reserves proposed been finally gazetted.

Proposals for reservation in the Lahore district were not favorably entertained by the Financial Commissioner. He "preferred not to proceed with the formation of a large number of reserves, but expressed his willingness to respond to recommendations where limited tracts and special reasons existed for strict forestry."

In the Muzaffargarh district the proposals, previously referred to, met with no better success; and the Financial Commissioner has ordered that it may be considered whether a compact area, more or less irrigable, cannot be acquired as a reserve in the north-west of the district.

The proper policy with regard to forest and waste lands, such as those of the Muzaffargarh district, which have been declared at Settlement to be outside the requirements of the local population, and the Lahore rakhs, equally the property of Government, free of all rights, would seem to be, to put them on the best legal footing possible, and to manage them in view of their highest production for the benefit of the general public. That the Indian Penal Code should still be applicable to such lands, so many years after the Forest Act has been in force, shows, either that the latter Act has failed in its objects, or that the results of its application are not fairly considered and understood.

Under the orders of the Financial Commissioner proposals are being made for the reservation of several compact irrigable areas, each of some 15 to 20 square miles, on the new canals being opened out in the Gujránwála, Montgomery and Mooltán districts.

10. During the year Registers of Reserves have been carefully revised and corrected. A complete list of all Reserves, Protected and District forests, has been given as an Appendix II, and Form 49 exhibits all corrections and changes according to working circles or forest units.

Register of Reserves

The following abstract of the form shows what changes were gazetted or caused by river action, and what alterations are due to correction of areas:—

Divisions.	Area on 1st April 1885.	By notification or by river action.		On account of faulty Estimates.		Total area on 31st March 1886.
		Acres added.	Acres excluded.	Acres added.	Acres excluded.	
Hazara ...	236	...	...	703	466	236
Rawalpindi ...	99	...	...	493	1,021	98
Chamba ...	196	...	...	366	12,101	178
Kangra ...	59	...	...	469	1,831	57
Bashahr ...	180	...	...	...	5,967	171
Jhelum ...	307	...	...	1,496	4,008	303
Chenab ...	77	37,383	258	765	735	135
Lahore ...	38	...	...	1,076	322	39
Mooltan ...	110	...	...	174	307	110
Montgomery ...	87	...	...	55	...	87
Phillour ...	2	...	...	735	242	3
Total ...	1,391	37,383	258	6,332	27,000	1,417
		Added 58 square miles.		Excluded 32 sqr. miles.		

The net result was the addition of 26 square miles to the reserved area.

Corrections of areas.

11. In Chamba the leased forests have, as was expected, on the basis of some surveys and more careful estimates, been considerably reduced. Those of the Bhandal valley are now entered at 20 square miles lower than in the previous year. In Bashahr the demarcation on new lines has resulted in a smaller area being included within reserved areas, and a reduction of 9 square miles has been made. Four square miles have been struck off in the Jhelum Division, while other additions and exclusions account for 1 square mile being added.

Additions and exclusions by notification.

12. By *Gazette* notification 36,997 acres were added to the reserved area in the Chenab Division, and in a similar way 258 acres were excluded from the Rasul reserve of that Division.

River action contributed an area of 386 acres in the Gujránwála and Gujrát districts.

Detailed explanation by Divisions.

13. *Hazara Division.*—The contemplated exclusion of the military cantonments in the 'Gallis' of the Hazara district was negatived, and it was not found possible to arrive at the exact areas of the civil stations. With regard to the military locations, it must be observed that the rules for their management are very vague and incomplete. Commanding Officers, in some instances, claim to be allowed to cut trees for any purpose without permission, while it is contended by the local officers that it never was intended by Government that a Commanding Officer should, during his short tenure of office, be allowed such liberty as to, if he thought fit, denude the hill; and they insist that the permission of the forest officer to fell trees for building and other such purposes is necessary. Grazing and fuel are managed by the military officers.

Rawalpindi Division.—In addition to the Murree and Kahuta proposed reserves still awaiting sanction, the settlement of the Kalachitta forest lands was in progress. Compensation for expropriation in Murree and Kahuta was still due at the close of the year for 127 plots, and amounted to Rs. 3,227.

Chamba Division.—The small addition to the Kainthli forest was still undisposed of, as the record of rights had not been agreed to by His Highness the Raja. Other records for Bela, Bakloh, Bannikhet and Surkhigali also required attestation at the hands of the Raja.

Kangra Division.—Corrections were made in the recorded areas of the Karanpur, Soldah and Belah reserves. There are still some unsettled claims to leases of *shámilát* land in exchange for cultivated land included in the reserved forests of the Nurpur range. These call for very early settlement.

Kulu Division.—The total area of reserves proposed and awaiting notification is 39,879 acres, or 28,643 acres in addition to the area noted in the Report for last year.

Bashahr Division.—The area of 32½ square miles reported as being in progress was completed during the past season.

Montgomery Division.—The proposed reservation of 3 rakhs referred to in last year's Report was not approved by the Deputy Commissioner. And in consequence of the distress, resulting from scarcity of grass, it has not been possible to press for these additional reserves or for the reservation of Bucheki during the year.

Phillour Division.—The Kalesar reserve was finally Notified after the close of the year. From information received from the District Officer, the areas of the reserved Sarangwal Birs were corrected to 1,104 acres.

The forests of Kotgarh and Kotkhai, though reserved under the Act, have not been brought on to Form 49, the Department so far having taken no part in their management.

b.—Village forests.

Hazara village forests

14. As yet nothing has been finally settled in regard to the village forests demarcated in Hazara. A draft Regulation to supersede that of 1879 is under consideration, and this will embody suitable provisions for the prescription of river rules.

c.—Protected forests.

Protected forests in Kulu

15. During the year the following areas, aggregating 271 square miles, were selected and demarcated as 1st and 2nd class protected forests, thus completing the demarcation in Kulu.

I. Class.	*Sqr. miles.*
Waziri Rupi	54
Inner Seoraj	3
Outer „	26
Total	83

II. Class.	*Sqr. miles.*
Waziri Rupi	115
Inner Seoraj	14
Outer „	59
Total	188

The rights in 7 proposed protected forests, of 4 square miles, in Lahoul were recorded, but the forests were not demarcated owing to the lateness of the season.

Settlement of forests in Kangra.

16. In the *Kangra Division* Mr. A. Anderson, C.S., commenced operations in November, and continued his work till March. Nine forests were demarcated in the Hamirpur tahsil in addition to the 54 forest blocks demarcated in 1882. The existing forest rights in these 63 blocks have been recorded. The rights consist generally of (*a*) grazing, and (*b*) taking wood, for daily use, burning the dead, marriages, agricultural implements and houses. What is given free and what on payment, and what is taken with and what without permission, has been recorded in detail.

Under the orders contained in Punjab Government, letter No. 567, dated 26th December 1884, 23 forest blocks have been demarcated in the Kotlehr taluka, the forests in which are managed by the Raja of Kotlehr under the supervision and control of the Forest Department, Government receiving one fourth of the forest revenue derived therefrom. The forest rights existing in the 23 blocks above-mentioned have been recorded.

The prescriptive rights in the Nadaun, Siba and Goler jagir forests were also enquired into and recorded. In Siba the Raja manages the forest under the supervision and control of the Forest Department, and pays Government half of the net revenue obtained from the demarcated forests. Under the orders of Government the Rajas of Nadaun and Goler are to receive half of the sale proceeds of timber felled in their *jagir* forests, such fellings being made under the guidance and control of the Forest Department; but the condition of the Nadaun and Goler forests does not admit of any fellings for sale at present. Rules have to be drawn up by the Forest Settlement Officer, in consultation with the Forest Officer, for the management of the *jagir* forests. The forests in the Dera tahsil were demarcated by Mr. Duff in 1875, and were declared to be reserved forests under

the Forest Act, in 1879. The practicability of additional forest demarcation in this tahsil was considered, but the village agreements entered into by Mr. Duff rendered any further demarcation impossible in villages where forest reserves were demarcated in 1875. Only one more forest block was demarcated in the Dera tahsil. The existing rights in the unreserved forests of this tahsil were recorded.

In the Nurpur tahsil 31 forest blocks, aggregating from 20 to 25 square miles, were demarcated. From one-fourth to one-third is composed of *chil*, and the rest is miscellaneous forest. The customary forest rights in these 31 blocks, as well as in the undemarcated areas, were recorded by the Forest Settlement Officer. The forest rights in the six villages in the Jagatpur taluka, in which forest reserves were demarcated by Mr. Duff Deputy Conservator Forests, and Mr. Roe, Settlement Officer, are somewhat different from the forest rights in other villages, and are to be dealt with in accordance with the terms of the village agreements made at the time of the demarcation.

Forests of Shahpur-Kandi

17. The settlement of the Shahpur-Kandi forests was still pending. Boundaries were kept up, and the forests cared for. No fires occurred.

Protected areas in the Gujranwala and Jhang districts

18. The protected forests of the *Chenab Division* were increased by the addition of 17,950 acres, duly gazetted, the total area being reduced by 631 acres by correction. A plot of 1,000 acres was granted to Malik Rehmat Khan from Choranwali, and this seems to have been overlooked by the Divisional Officer when framing his statement of areas. The southern boundary of the 13 rakhs in the Jhang district having been completed, a draft notification will be submitted, and it may be expected that they will be gazetted in the course of the year 1886-87.

Other protected forests shortly to be sanctioned

19. The demarcated protected forests in Murree and Kahuta under suitable rules were not sanctioned; but final orders regarding them, it is believed, will very shortly issue. The estimated area of the Kalachitta protected forest was found by survey to be 98,575 acres, and not 1,09,440 as previously estimated.

Area at close of year

20. The total area of protected forests was 321 square miles at the close, as against 311 at the commencement, of the year.

(*d.*)—*District or Unreserved Forests.*

Definition and extent of district forests

21. It is necessary for the purposes of this report, and it will continue to be desirable until establishments shall have been amalgamated and revenue and expenditure brought under the same heads, to distinguish between the unreserved forests and waste lands under the Forest Department, and those hitherto under the District Officers. The Code has adopted the term "district forests" for all lands not included in reserved or protected forests: it must not be understood that such tracts are more directly under district management than are now all reserves and protected forests. The term is preferable to the old "unreserved forests."

The area statement of district forests has, as far as possible, been corrected. They now stand at 2,709 square miles, and are detailed in Appendix II already referred to.

Water-courses made in district forests.

22. The water-courses in the Lahore rakhs, for which an annual rental had been fixed in view of safe-guarding the Government proprietary right in the soil, have been exempted from rental under the orders of the Financial Commissioner. It is ruled that neither agreements nor rents can be taken from persons who enjoy existing water-courses made without written permission; and it is considered that in future, written agreements only, will sufficiently protect the interests of Government.

2.—Boundaries.

Boundary marks.

23. *Hazara Division.*—The remaining pillars in Kaghan were erected, and practically all boundary disputes have now been settled. Repairs were carried out in both the Dungagali and Khanpur ranges.

Rawalpindi Division.—Demarcation was completed in both the Murree and Kahuta tahsils; but the work of checking the pillars was still unfinished. Considerable progress was made in the clearing of 20 feet lines along the boundaries of reserves already demarcated by pillars. 72 miles were cut for Rs. 240, the material on the lines being sold. In protected forests 25 miles were cleared at the small cost of Rs. 31, the wood being purchased by the cutters at reduced rates.

Chamba Division.—Repairs were carried out throughout the Division; and masonry pillars will be erected around those forests in which the working plan prescribes fellings.

Kangra Division.—The boundary pillars of the Bagarian, Mallanwal and Gagriwal reserves were repaired; similar work elsewhere was postponed in order to keep down expenditure. The proposed protected forests in the Hamirpur tahsil and taluka Kotlehr, as well as in the Dera and Nurpur tahsils, were marked off in a preliminary way.

Kulu Division.—The whole of the forests, 316 square miles, in the Waziri-Rupi and Outer Seoraj ranges were demarcated. When the reserves are gazetted, permanent pillars will be erected at the angles, and more intermediary cairns will be built, where required.

Bashahr Division.—Repairs to boundary marks were carried out in all ranges.

Jhelum Division.—The work of demarcating lands within reserves, but burdened with rights, was continued, and 2,381 pillars were built for Rs. 2,269. The demarcation is now complete in reserves Garat, Nili, Drengan, Simbli, Jindi, Paniala and Malot. Zemindari plots remain to be marked off in seven reserves; and areas burdened with grazing rights have still to be demarcated in nine of the reserves.

Chenab Division.—The newly gazetted reserves were marked off from the protected forests by lines and interrupted trenches, and this completed their demarcation. They are separated from each other by cleared lines. The one mile of boundary in rakh Minargarh under dispute still remains to be settled, and the area granted from this reserve to Kishen Singh has still to be demarcated. The reserves with these exceptions are all demarcated. The demarcation of the Bhera rakhs in the Shahpur district proceeds very slowly: 13 miles of interrupted trenching were done, but no revenue official being procurable to verify the boundaries, as laid down by the Ranger, the digging of trenches over some 61 miles of boundary, preliminarily marked, could not be carried out. The remaining 16 miles of the southern boundary to rakhs in the Jhang district were demarcated during the year.

Lahore Division.—It is reported by the Divisional Officer that the demarcation is everywhere (excepting the Carob plot enclosed by a wire fence) unsatisfactory, even in parts of the Changa Manga reserve. This is scarcely borne out by the Conservator's inspection of the Changa Manga and Shadera plantations; but boundaries will be gone over and all necessary repairs done. Most of the unreserved rakhs, district forests, demarcated by mud heaps, require demarcation by the cheap and effective system of interrupted trenches.

Mooltan Division.—Slight discrepancies exist between the Settlement records and the demarcation lines as laid down for the reserves in the Lodhran tahsil. As the lines on the ground are straight, and only skirt the cultivation in places, so that, if altered, they would take in cultivated land, it will probably be found better to accept the lines as they exist. In the Sherpur rakh of the Lodhran range 172 mounds, with a plough line run between them, have been used to demarcate three plots. The entire boundary of the Jalwala rakh in the Muzaffargarh district was demarcated by 40 mounds and a cleared 20 feet line; seven miles cost Rs. 136. Two miles of the Koreshi rakh boundary were cleared, 20 feet wide, for Rs. 47. The Sanjar rakh boundary in the Dera Ghazi Khan district was cleared, and 51 mounds put up. Repairs were generally carried out.

Montgomery Division.—A further length of 29 miles of boundary line was marked by interrupted trenching at a cost of Rs. 282. This completes the demarcation of reserves. They are marked off by cleared 20 feet lines, with numbered posts at angles, and, where necessary, by trenches also.

CHAPTER II.—SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

1.—Surveys.

Corrected statements of areas surveyed.

24. In previous Reports the forest area "surveyed" and "unsurveyed" has been shown without any reference to the degree of detail or accuracy of those surveys. As this is misleading, the following revised statements are submitted :—

I.—Lands Reserved or Protected under Forest Act.

Name of Forest Division.	Regular Surveys.		Chain and Compass Surveys.		Sketch surveys.	Unsurveyed.	Total area of gazetted forests.
	Sufficient for all forest purposes.	Sufficient for present requirements.	By local forest officers' English records.	By village Patwaris' vernacular records.			
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Hazara	...	...	...	1,51,282	...	...	1,51,282
Rawalpindi	1,02,734	...	...	58,673	...	...	1,61,407
Chamba	...	14,322	163	...	...	99,220	1,13,705
Kangra	...	...	...	36,398	...	...	36,398
Bashahr	...	...	...	...	21,566	87,667	1,09,233
Jhelum	...	...	...	1,93,968	...	...	1,93,968
Chenab	...	...	79,128	1,13,854	...	372	1,93,354
Lahore	7,061	...	4,574	13,439	...	...	25,074
Mooltan	...	...	70,267	...	...	...	70,267
Montgomery	...	...	55,735	...	...	...	55,735
Phillour	...		417	1,356	...	...	1,773
Total	1,09,795	14,322	2,10,284	5,68,970	21,566	1,87,259	11,12,196

II.—Ungazetted lands under Forest management.

Name of Forest Division.	Regular Surveys.		Chain and Compass Surveys.		Sketch surveys.	Unsurveyed areas.	Total.	Remarks.
	Sufficient for all forest purposes.	Sufficient for present requirements.	By local Forest officers' English records.	By village Patwaris' vernacular records.				
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Rawalpindi ...	1,13,556	...	...	88,711	...	...	2,02,267	Includes forests under District Officers.
Chamba ...	...	...	...	8,882	...	...	8,882	
Kangra ...	...	...	...	...	...	58,571	58,571	
Kulu	...	...	...	...	3,48,089	...	3,48,089	
Bashahr ...	...	...	...	...	...	21,760	21,760	
Jhelum ...	...	...	...	5,23,195	...	...	5,23,195	Do.
Chenab ..	...	...	7,753	2,23,342	4,639	...	2,35,734	
Lahore ...	...	...	43,934	1,65,433	...	...	2,09,367	
Mooltan ...	...	...	38,711	63,595	...	...	1,02,306	
Montgomery ...	...	...	21,58,863	...	...	...	21,58,863	Do.
Phillour ...	11,829	770	...	200	...	...	12,799	
Total ...	1,25,385	770	22,49,261	10,73,358	3,52,728	80,331	38,81,833	

Work during the year, in Hazara and Rawalpindi

25. In the Hazara Division the set of small scale maps were completed by the compilation of those for the Dungagali range. In the Rawalpindi Division the completion of the surveys of the Murree and Kahuta protected forests is reported; some pillars appear still to have to be checked, and the maps to be attested.

Special survey work in Chamba.

26. The survey work commenced in Chamba during the preceding year was continued under the Officer in charge of the Working Plans Branch, who was again allowed the services of two sub-surveyors, lent from the Imperial Forest Survey Branch. Seventeen forests, aggregating 9,410 acres, and the country immediately surrounding them, were surveyed in Chamba during the year by this agency. As in the preceding year, the maps were prepared on the small scale of 2 inches=1 mile. The existing Revenue and Trigonometrical Survey stations were made use of, and the contours of the hills and other topographical features sketched in by means of intersections to these points, which were plotted on the field sheets issued to the surveyors. This survey work was completed in December, after which the surveyors returned to their duties in the Imperial Survey Branch.

Sketch maps of Kulu forests

27. An index map of the selected forests in Kulu has been prepared for all forests, except those of Rupi; and no explanation is given as to why these were treated differently by the officer attached to the Forest Settlement officer. Sketch maps (vernacular records) were prepared for the 146 forests demarcated during the year.

Work in Bashahr by Imperial Forest Survey and Divisional Officer

28. The preliminary work in connection with the regular survey of the more important forests of Bashahr by the Imperial Forest Survey Branch was commenced, and an area of 40,439 miles was triangulated. Sketch maps (vernacular records) were prepared by the Divisional Officer of 15 forests demarcated by him during the year.

Proposed maps of the Bhera rakhs

29. Of the Bhera rakhs in the Shahpur district of the Chenab Division, which are now being worked, very reliable maps can be constructed from the revenue survey maps of the mauzas made at settlement, to which it will only be necessary, in order to bring them up to date, to add details regarding grants made and lands leased since settlement. The maps will be constructed by the Divisional Officer, and the further information added by a Forester trained at the school, who will shortly be returning to the Division.

Re-survey of Changa Manga

30. In the Lahore Division a chain and compass survey was made of the Changa Manga reserve, including the plantation area, 18,177 acres (according to former surveys), by the working plans establishment assisted by the local officers. A regular survey of this plantation had been made in 1871; but since then the compartment roads and many irrigation channels had been made, so that a new survey was necessary to enable a working plan to be prepared. This survey has been completed since the end of the financial year, and the results obtained will therefore appear in the next Annual Report.

Survey of Kalesar forest done by Imperial Forest Survey

31. The Kalesar forest in the Phillour Division (which has been constituted a reserve since the close of the financial year) was surveyed on the scale of 4 inches to 1 mile by the Imperial Forest Survey Branch and the students of the Dehra Dún forest school. The maps have not yet issued.

Revised list of reserved, protected and district forests with map showing their distribution

32. The Working Plans Branch of the Conservator's office continued to be employed in revising the existing forest records of the Province. A revised list of all forests and waste lands under forest management, both by the Department and by district officers, was drawn up. These areas, some 2,400 in number, were entered on a general map of the Province on the scale of 8 miles = 1 inch, to which the above list forms a complete index. A copy has been separately submitted to the Local Government, and a copy has been sent to the Forest Survey Branch, in order that copies may be supplied to the Government of India in accordance with the orders contained in para. 4 of the Government of India Resolution on the Annual Report for 1884-85.

Small scale map appended to report showing distribution of forest lands in the Province.

33. The small scale map 32 miles = 1 inch, referred to in para. 57 of last year's Report, has been completed, and has been added to this Report as an Appendix III. This, with the larger map and index, will, it is hoped, fully comply with the request made in para. 9 of the Local Government Resolution on Annual Report for 1883-84.

Delay in the attestation of Jhelum records.

34. The examination and attestation of the Jhelum records and maps by a Settlement Officer have not yet been carried out, owing, it is believed, to the Financial Commissioner's inability to spare an officer for the purpose. This work will be undertaken during the current year, and the maps can then be published.

2.—Working Plans.

Working plan of Upper Ravi forests.

35. The working plan for the forests on the Upper Ravi in Chamba, commenced in the preceding year, was continued and completed. The area of the demarcated forests, which number 180, was found to be 71,008 acres. It is proposed in the working plan to form these forests into four working circles, which, for administrative convenience, will also be constituted ranges, and to work each by the selection method with an interval of 15 years between consecutive fellings in the same area.

Other plans for Chamba forests and Kalesar.

36. Working plans were also drawn up for the forests round Dalhousie, *viz* :—

	Area.
Kalatop and Dadra (a revised plan),	2,536 acres.
Kainthli ...	964 „
Bannikhet forests	517 „
Bakloh and Bayla forests ...	643 „
Total area	4,660 acres.

and for Kalesar forest in the Umballa district, area 11,829 acres.

All these plans were completed in January last, and all, except that for Kalesar, have been in the press since then.

Working plan of Changa Manga.

37. The working plan for the Changa Manga reserve, area 18,177 acres including the revision of the existing plan for the plantation, was commenced in March and completed since the end of the financial year.

Working plans prepared by Divisional Officers.

38. Besides the above plans prepared by the special Working Plans Branch, two plans were submitted by local officers, one of Bhera rakhs, area 1,42,920 acres, by Mr. Copeland, the Chenab Divisional Officer, and one of the Shadera plantation, area 1,226 acres, (referred to in last year's Annual Report), by Mr. McIntire, Assistant Conservator, in communication with the Working Plans Officer. This latter plan had to be returned for slight addition and alteration, and consequently it has not yet been printed. It is hoped to extend the system of utilizing the services of the local Officers in collecting data for working plans, so as to bring all the forests under more systematic management as soon as possible ; and the collection of data for the preparation of plans for the forests in Pangi (Chamba Division) and for the forests in Murree and Kahuta tahsils of the Rawalpindi district, has been commenced during the year by the local Officers on memoranda of instructions drawn up by the Officer in charge of the Working Plans Branch.

Boundary description, and statement of all forests and waste lands, with areas.

39. A detailed description of the boundaries and rights, as far as known, in each of the reserved and protected forests has also been prepared.

A statement has been compiled showing reserves, protected and district forests, arranged according to working circles or forest units, and this arrangement has been followed in the list of forests printed as an Appendix to this Report.

Cost of special working plans.

40. Including the salary of the Officer in charge, the total expenditure incurred during the year on account of survey and working plans and other organization work undertaken by the Working Plans Branch, amounted to Rs. 13,905, which may be distributed as follows :—

Description of works.	Details of Expenditure incurred.											
	Purchase of tents and instruments.	Pay of labourers, temporary establishment employed, surveys and working plans.	Salary of Officer in charge of working plans.	Salaries of forest establishment.	Salaries of the office establishment.	Travelling allowance of the Officer in charge.	Travelling allowance of forest establishment.	Travelling allowance of office establishment.	Carriage of tents and records.	Office rent.	Postage stamps and other contingencies.	Total expenditure.
	A VI c	A VII c	B I b	B I c	B I d	B II b	B II c	B II d	B III b	B III c		
Completing the organization scheme for the forests on the Upper Ravi and round Dalhousie, area 76,155 acres, of which 9,410 acres were surveyed during the year	664	1,725*	4,400	401	200	877	194	100	126		33	8,720
Preparing a provisional organization scheme for the Kalesar forest, area 11,829 acres			300						.		.	300
Preparing (work commenced one month only) organization scheme for the Changa Manga reserve, area 18,177 acres		8	550	.	41	160	..	10	..	...	..	769
Revising records of reserves and other lands under forest management ...	201	657†	1,350	201	315	730	59	144	139	280	40	4,116
Total Expenditure ..	865	2,390	6,600	602	556	1,767	253	254	265	280	73	13,905

* This includes Rs. 654 on account of salaries and travelling allowance paid to the sub-surveyors, which amount has since been adjusted by transfer to Government of India.

† This includes the salary of a temporary Draftsman.

Application of the Khanpur working plan.

41. *Hazara Division.*—The working plan of the Khanpur range, which is the only one in the Division, was fully reported on last year. It now only remains to add the prescribed operations of the year and those actually carried out. These were as regards cuttings—

	Previous to 1885.		During 1885.		Total to date.	
	Acres.	Maunds.	Acres.	Maunds.	Acres.	Maunds.
Cuttings provided for ...	6,433	2,40,100	1,420	37,200	7,853	2,77,300
Actual Clearances ...	2,804	1,31,666	1,248	23,847	4,052	1,55,513
Differences with Plan ..	—3,629	—1,08,434	—172	—13,353	—3,801	—1,21,787

Thus the fellings have been less than those provided for, by an area of 3,801 acres, with an estimated outturn of 1,21,787 maunds, and those of the year under report are not prescribed, but unfelled areas, brought forward from 1879. The reason for this deviation is the difficulty of disposal of the wood

as explained last year. During the year under report, it was only possible to dispose of the area cleared by fixing a certain rate per load and taking count of the loads extracted. No purchaser could be procured to cut and stack before removal. The provisions of the plan regarding communications, cultivation and reproduction have not been adhered to, chiefly because they are so obscure and have in some instances become unnecessary. Nevertheless these works have not been neglected; and during the year seven miles of inspection and transport roads have been either repaired or newly made, 52 acres cultivated, and several new nurseries established.

Working plan for Bashahr

42. *Bashahr Division.*—A regular working plan will be prepared for the forests of this Division as soon as maps are available. For the present the preliminary working plan of 1876 and suggestions regarding the management of the leased forests of Bashahr, with inspection notes by the Conservator, guide the compilation of the annual plan of operations.

Working plan for certain of the Bhera rakhs.

43. *Chenab Division.*—During the year a scheme for the annual supply of 3,00,000 cubic feet of Jhand fuel from the Bhera rakhs to the Salt Branch of the North-Western Railway was submitted. The scheme provides for the cutting annually of an area yielding three lakhs of cubic feet and its closure to grazing for five years after cutting; only the rakhs which are within 16 or 17 miles of the Railway enter into the scheme, the others being too far to be profitably worked. In accordance with its provisions, Rakh Ishar was felled over during the year yielding, as estimated, a half year's supply, or one and a half lakhs of cubic feet.

Application of Changa Manga working plan

44. *Lahore Division.*—The revised working plan of Changa Manga will dispose of the treatment up to the end of the year under review, and explain deviations from the existing plan.

In other Divisions no regular working plans are as yet in force.

3.—Annual Plans of Operation.

Temporary plans of operations for 1885 86

45. The plans of operations for 1885-86 were regularly drawn up, duly sanctioned, and fairly worked up to in each Division. They have not been printed in accordance with orders, and any detailed notice of 12 Divisions would be too lengthy. The following are the most important deviations from plans.

The planting operations in the Pangi forests of the *Chamba Division* were postponed, as no gazetted officer could be spared to carry them out.

In *Kulu* the forest house was not built owing to the financial pressure and withdrawal of the allotment.

In the *Chenab Division* an area of 8,611 acres, proposed to be closed for the entire year, was opened for a time in consequence of scarcity of grass.

Similarly, in the *Mooltan Division*, the Pakka Haji Majid reserve was opened for a time on payment of monthly fees; and some proposed sowings were not done owing to drought.

In the *Montgomery District* the reserves were thrown open free of charge, for three months, by order of the Financial Commissioner, whereas the plan contemplated the taking of the usual fees.

Annual plans of operations for 1886-87

46. Commencing from 1886-87, these plans have, district by district, been submitted by Deputy Commissioners, and, in accordance with Financial Commissioner's Circular No. 42 of 1885, have been sanctioned by Commissioners in consultation with the Conservator. This system allows of the year's working being fully considered and decided upon before the commencement of the year; and the plans having the approval of all officers concerned, it is anticipated that they will be acted up to without demur, and carried out with a readiness and zeal which have hitherto not been felt.

CHAPTER III.—PROTECTION AND IMPROVEMENT.

1.—Establishment.

Disposal of gazetted officers

47. During Mr. Hill's absence on 3 months' privilege leave, Mr. A. E. Wild officiated as Conservator. For the remainder of the year under review Mr. H. C. Hill, officiating Conservator, was in charge of the Province.

Divisional Officers held charges during the year as below :—

Division	Officers.	From	To
Hazara ...	Mr A E Wild	1st April ..	31st October.
	„ R. P. Pinder	1st November .	11th November
	„ L G. Smith	11th November	15th February
	„ A E. Wild	15th February...	End of year.
Rawalpindi ...	Mr. W Shakespear	Throughout year	
Chamba ..	Mr J C McDonell	Ditto ...	
Kangra	Colonel W Stenhouse ...	Ditto ..	
Kulu	Mr. L G. Smith	1st April .	29th April
	„ F O. Lemarchand ...	29th April ...	End of year
Bashahr ...	Mr. G G Minniken	Throughout year.	
Jhelum ...	Mr. A M. Reuther	1st April ...	10th April
	„ E Forrest	10th April ...	End of year
Chenab ..	Mr. J. Copeland	1st April ...	26th October
	„ J L Pigot	26th October ...	20th February
	„ J. Copeland	20th February...	End of year
Lahore	Mr. F. O. Lemarchand ...	1st April ...	18th April
	„ A. M Reuther ..	18th April ...	28th July.
	„ A L McIntire	28th July ..	27th October
	„ A M Reuther	27th October ..	End of year
Mooltan	Mr E. S. Carr	1st April ..	9th July.
	„ J E. Barrett	9th July ...	10th November
	„ C F Elliott	10th November,	End of year
Montgomery ...	Mr E. R. Murray	Throughout year.	
Phillour ...	Mr E A. Down	Ditto.	

Services of officers.

48. In the hill divisions, Mr. J. C. McDonell, Mr. Wild, Mr. Minniken and Mr. Lemarchand have all done excellent work; and of the officers in charge of other divisions, Mr. Reuther and Mr. Copeland deserve special mention for the marked ability with which they have managed their charges. It is creditable to Mr. Shakespear that the Rawalpindi division shows a surplus, and the year's results on the Sutlej reflect credit on Mr. Down. Mr. W. E. D'Arcy had charge of the Working Plans Branch of the Conservator's office, and the good work done by him is fully detailed under Chapter II. Mr. Gisborne-Smith was employed till November on special duty with the Forest Settlement Officer in Kulu and in inspecting the forests of the Mandi State. On being relieved in Hazara, he was given charge of the Pangi forests of Chamba. Mr. E. S. Carr examined, and specially reported on, the Khwarra and Zira forests of the Kohat district. Mr. McIntire, Assistant Conservator of Forests, attached to the Lahore Division, was employed on the collection and despatch of exhibits for the Indian and Colonial Exhibition. The work was done with a care and completeness reflecting credit on Mr. McIntire.

Sub-Assistant Conservator Mr. C. F. Rossiter is well reported on for his work in the Jhelum river. Babu Ladha Singh was confirmed in the grade of Sub-Assistant Conservator from 4th November 1885. Ranger Fazl-ud-din has been promoted to the rank of Sub-Assistant Conservator, on probation, with effect from the 24th March 1885.

49. Ranger Mansukh Rai was transferred to Berar in July; and in October Ranger Sadhu Singh was deputed to the Jeypur State.

Rangers and protective establishments.

Rangers have generally worked well and given satisfaction; but the same cannot be said of other members of the protective establishment who were not on the whole well reported upon. One Guard in Hazara was convicted of bribery, and 3 others were dismissed. A Forester and Guard were arraigned on a charge of culpable homicide in connection with a cattle trespass affray in the Rawalpindi district. The former was acquitted, and the latter sentenced to two years' imprisonment

There remain 3 native non-commissioned officers, all of whom are well reported on. Duffadar Sunder Singh has been promoted from Rs. 25 to Rs. 30 per mensem.; Naik Jaymal Singh and Lance-Duffadar Natha Singh have given complete satisfaction.

Foresters Atma Ram, Devi Ditta and Sunder Dass returned to duty from the Forest School after the close of the year. They have all obtained the Ranger's certificate. In July Sub-Assistant Conservator Fazl-ud-din, Ranger Jowála Parshad, and six Foresters and apprentices were sent to the Forest School. Fazl-ud-din and Foresters Mansab Ali and Abdul Aziz have returned to duty; the others will now follow the 2nd year's course—they are: Ranger Jowala Parshad and apprentices Beli Ram, Mulraj, Mangal Sein and Harnam Singh.

Office establishments

50. Mr. Pocock, for years Head Clerk and Superintendent of the Conservator's office, died in January. He thoroughly understood his work, and was not easily replaced. Office establishments were generally well reported on.

Amalgamation of forest establishments

51. The sanctioned establishment remained as heretofore. The amalgamation of the district rakh establishment with that of the Department is under consideration, and it is hoped will shortly be carried out. Now that District Officers through their Forest officers manage the whole of the forests and waste lands of their districts, it is essential that the establishments should be brought on to one list.

2.—General Protection and Breaches of the Forest Law.

Forest offences

52. During the year 1,013 cases of breaches of the forest law were disposed of by the Court, and convictions were obtained in 79 per cent. of the cases. There were 262 cases pending at the close of the year, but these included 144 in the Montgomery district and 65 in Bashahr. The cases in Montgomery were chiefly for illicit lopping in unreserved forests, consequent on an order of the Financial Commissioner, referred to elsewhere.

Comparison with previous years

53. The following statement compares the offences of the year with those of the two previous years:—

	Number			Increase over previous year.	Decrease over previous year	Remarks
	1883-84.	1884-85	1885-86.			
1 Injury to the forests by fire	126	76	84	8	...	
2 Unauthorized felling or appropriation of wood and other minor produce ...	437	611	642	31	...	
3 Grazing without permission	193	192	209	17	.	
4 Other offences	212	195	179	...	16	
Total ...	968	1,074	1,114	56	16	

Cattle impounded

54. The statement of the number of cattle impounded, called for in para. 5 of Punjab Government Resolution on last year's report, is given below, and the figures are compared with those of the previous year:—

Division	Cattle and buffaloes	Sheep and goats	Camels	Horses, mules, &c	Total	Total of 1884-85
Hazara	569	797	2		1,368	1,833
Rawalpindi	3,505	8,138	602	14	12,259	17,692
Kangra	2,149	700		22	2,871	2,255
Jhelum	764	2,064	22	25	2,875	3,349*
Chenab	2,155	2,368	145	35	4,703	2,892
Lahore	4,798	3,795	314	160	9,067	2,775*
Mooltan	2,717	772	251	31	3,771	4,888
Montgomery	3,710	1,304	345	128	5,487	3,845
Phillour	189	206	.	5	400	603
Total	20,556	20,144	1,681	420	42,801	40,132

* Of these 430 only included in last year's total reported

Remarks on cattle trespass

55. Allowing that the year of excessive drought led to more determined disregard for closed areas, still, the fact that some forty thousand head of cattle were impounded shows that the people risk the inconvenience of a journey to the pound and the payment of pound fees under the Cattle Trespass Act, rather than go to the trouble and cost of placing the animals under a herdsman, when grazing near closed forests. There would seem no greater hardship in the people having to watch their cattle near forests, than there is in their having to do so in the neighbourhood of fields, and it is a matter for consideration whether the pound fees should not be raised under Section 70 of the Forest Act.

Compensation for damage, taken in addition to pound fees.

56. In two or three Divisions a custom had grown up of exacting, on the evidence of pound receipts, a further small payment, as a rule not exceeding pound fees, by way of compensation for damage done. The origin of this demand is not clear, and Divisional Officers exceeded their powers when they held such compensation to be leviable under Section 67 of the Forest Act. In the case of prosecutions under Section 25, compensation may be awarded by the convicting Court, but any arbitrary levy of compensation is, of course, inadmissible, and has ceased.

Offences compounded under Section 67

57. Under Section 67 of the Act, 1,070 cases were compounded, in four Divisions only, as shown in the following statement :—

Division	No of cases	Amount for which compounded	Average per case.
Rawalpindi	32	219	6 8
Jhelum	226	1,132	5·
Mooltan	294	776	2 6
Montgomery	518	736	1 4

The number would be smaller did it not include some cases disposed of as noticed above. The average rate over all cases was Rs. 2·7 or considerably less than in the previous year.

3.—Forest Fires.

Fire protection measures

58. Special measures were taken for the protection of 1,60,618 acres, and of this area 1,55,674 acres were successfully protected at a cost of Rs. 901. As previously reported, reserves, other than those specially protected, escape fire. The suggestion made in para. 8 of Government of India review of the Annual Report for 1884-85 in regard to Hazara was acted upon, and a fair trial was made by clearing of pine needles a line of 100 feet broad along 5½ miles of the boundary of the Batrasi reserve. The experiment was not a success, as the very heavy fall of *Pinus*

longifolia needles which takes place in May and June, the precise time when fires chiefly occur, had the effect of re-covering the line in a few days to a sufficient extent to allow of fire crossing. The only way to prevent fires seems to be to prohibit wilful firing, and to force communities to at once turn out and extinguish accidental fires. The spread of a fire in these hills is in the beginning not very rapid, and when proper efforts are made, all are, as a rule, extinguished before any large area is burnt over.

59. The following statement of all fires reported in forests and waste lands, carries on the comparison with previous years :—

Division	Number of fires		Total area over which spread.		Remarks
	1884-85	1885-86	1884-85.	1885-86.	
Hazara	23	11	13,827	4,460	
Rawalpindi	10	15	179	265	
Chamba	11	7	..	35	
Kangra . ..	7	3	484	3	
Kulu	26	67	448	3,019	
Bashahr .	13	9	Not given	Not given	The open area of Kalesar is not included it is regularly burnt over
Chenab .	2	*Nil*	20	*Nil*	
Lahore .	5	9	245	25	
Mooltan ...	13	21	4,845	8,410	
Montgomery	2	*Nil.*	7	*Nil*	
Phillour .	3	3	2,000	500	
Total	115	145	22,055	16,717	

Although more fires occurred than in the previous year, the areas actually burnt over show a steady decrease, which is satisfactory.

Details for Divisions

60. *Hazara Division.*—The chief fires happened, as usual, in the *Pinus longifolia* forests around the Pakli plain, and they almost all occurred during the space of one week, from the 16th to the 23rd June. Some fires were quickly extinguished, while others were alight the whole week through. The Deputy Commissioner considers that the people took advantage of a large fire spreading from Akror to relax precautions and be less prompt in putting out small fires in their lands. The provisions of the law in Hazara are as stringent as they possibly can be, and yet fires continue ; but all officers agree that a firm application of the law will in time result in the prevention of the evil. It must, however, be admitted that it is just as much an offence to fire *guzaras* without permission and proper precaution, as it is to set fire to a reserved forest, and the people must be equally punished. The Divisional Officer holds that many of the fires must be attributed, rather than to accident, to the fixed intention of the people to burn both their own *guzaras* and the adjacent forests. Both Revenue and Police officers exerted themselves to guard against fires.

Rawalpindi Division.—There was an increase in the number of fires, but none were of much importance. Three cases were prosecuted and convictions obtained, a fourth was pending.

Chamba and Bashahr Divisions.—No serious fires occurred, and it is significant that it should be so much more difficult to put down fires in British territory than in Native States.

Kangra Division.—In this division the damage done was limited to 3 acres, which is highly satisfactory.

Kulu Division. Of the 67 fires which are reported from Kulu, 22 happened in actual forest lands, and covered an area of 597 acres, while the remaining 45 burning an area 2,422 acres were confined to waste and grass land with no tree growth ; 345 acres of reserved and protected forests were successfully protected, and 535 square miles escaped fire without special measures.

Lahore Division.—Eight of the nine fires reported took place in the military grazing rakhs, and the remaining one occurred at Shadera, adjoining the railway line; the total area burnt over was 25 acres only.

Mooltan Division.—Twelve of the 21 fires occurred in the Muzaffargarh district, and the Deputy Commissioner has in consequence closed to grazing the Bet Diwan Sahib and Bet Mir Hazar Khan rakhs. The most serious fire was in Makhan Bela, where 300 acres were burnt over, the fire doing considerable damage, as the area had been recently cut over and the coppice shoots were burnt back. 1,700 cubic feet of stacked fuel were also consumed; 3 fires occurred in the Dhaka rakh, and 4 in Bet Diwan Sahib. Under the existing law it is practically impossible to punish the offences relating to fire.

Phillour Division.—Two fires occurred within the protected portion of the Kalesar forest, and burnt over 500 acres; it was only after some 10,000 acres of the open part had been burnt that fire extended to the closed area. A small fire in the Ludhiana plantation damaged half an acre before it was extinguished.

4.—Grazing and Fencing.

Fuel and fodder reserves

61 The formation of fuel and fodder reserves received special attention; and proposals, acceptable to District Officers, were made for the districts of Mooltan, Montgomery, Lahore, Gujranwala, Jhelum and Rawalpindi, and have been submitted for sanction. Owing to leases having been sold for the current year in the two last named districts, full effect cannot be given to the proposals till 1887-88; but in other districts, the arrangements have been embodied in the plans of operations for the current year. The closings are recommended on the lines laid down in Mr. Ribbentrop's memo. of 7th December 1883; and it was pointed out that the establishment of fuel and fodder reserves was nothing more or less than the carrying out or extension of, what has all along been the aim of the Department. By closing areas for the entire year, and disposing of grass by sale, and by closing other areas for part of the year, and only opening them to a limited number of cattle, and for such time as is necessary for the consumption of the grass crop, fodder reserves of two classes are established, and these of themselves do all, that can be done, to tide over periods of scarcity within the year. When entire years of drought occur and further provision becomes necessary, hay can in good years be made and stored from the closed areas. The closing of areas is still considered a great hardship and objected to by the people with much persistency. It is worthy of note that, while a tract is held by Government, the withdrawal of it from the open grazing area is complained of as a measure carrying complete ruin to the population for miles round. The complaints are often supported, and the measure is looked on as an infringement of rights. In the event of this same tract being alienated by sale or grant, however, the people rarely murmur or affect to put forward any claim in regard to it. Again, it is found that earnest objections are urged against the closing of an area, though it may not afford any pasturage. Although there are doubtless times when the grazing is much needed, the people often petition to have tracts opened, not because they cannot do without the pasture, but merely to be freed from the restriction and the inconvenience consequent on the herds having to be tended, when near the closed area. So long as the lands are managed by Government, they refuse to respect the right and ownership of the property as they are compelled to do when it passes into the hands of private persons. Where the proprietorship is understood and respected as at Changa Manga, no difficulties are felt or complaints made; but cross the Railway line into Reserve Jalleki, and closing for part of the year only is urged to mean nothing short of ruin. Time and a firm policy will teach the people that State properties, unburdened by rights of user, may and ought to be managed to as much advantage as private lands. The closed areas once established and accepted, the people will doubtless appreciate the benefits of either a grass reserve from which they may cut at all seasons, or a certain good pasture land upon which they may fall back when the open lands are bare.

Areas closed

62. The following statement shows the areas closed in square miles :—

Divisions.	Entirely.		Part of year.		Against camels, goats and sheep	
	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.
Hazara	152	169	...	3	...	172
Rawalpindi	77	62	...	17	...	90
Chamba	61	61	..	...	...	61
Kangra	57	56	6	5	...	63
Kulu	15	15	...	...	...	15
Bashahr	26	33	...	..	..	33
Jhelum	27	22	...	...	53	74
Chenab	17	18	45	49	131	191
Lahore	41	22	11	47	67	149
Mooltan	16	45	176	130	37	175
Montgomery	...	4	70	87	25	110
Phillour	...	6	2	...	...	6
Total ...	489	513	310	338	313*	1,139†

* This column excluded areas closed entirely or for part of the year.

† These figures now include *all* areas from which browsers are excluded.

There was a considerable increase under all classes of closed areas, 513 square miles being entirely closed to all animals, 338 square miles closed for part of the year to all animals, and opened *only* to horned cattle for a limited period. In addition to these 851 square miles, a further area, open to horned cattle, of 288 square miles was preserved from camels, goats and sheep.

The column in last year's report "closed against camels, sheep and goats," was not made to include areas closed entirely or partially, from both of which classes, as presumed in para. 9 of Government of India Resolution, browsers were carefully excluded.

Scarcity of grass

63. The drought and grass famine previously noticed still continued, and the people of the Bar lands were reduced to great straits. Cattle were driven away to long distances, but large numbers died.

Opening free of Montgomery reserves and other measures of relief.

64. The Financial Commissioner again deemed it necessary to open the Montgomery reserves, free of charge, but fewer cattle resorted to them, as most of the animals were dead, or had been driven to other pastures.

By way of further alleviating the distress, the Financial Commissioner, when on tour in the district, made another concession, which was unfortunate in resulting in wholesale damage to the Jhand trees in unreserved forests. He permitted for 3 months the removal of the tender shoots of Jhand, provided *daranties* only and not hatchets were used. This too apparent a thin end of the wedge was promptly taken advantage of by the people, and they had no sooner been given the tender shoots, then they went to work with the usual herdsman's hook and axe, lopping off leading shoots and tearing down the brittle branches of all sizes. They went so far, in many instances, as to fell good average trees. No less than 180 prosecutions were instituted, but the mischief was done, and the time of permission had expired before the destruction could in this way be checked.

Detail for Divisions

65. *Hazara Division.*—The area closed to grazing was increased by 10,781 acres from 97,589 acres last year to 1,08,370 acres during the year under report, on account of the disastrous fires of 1884, raising the percentage closed from 64 to 71. The subjoined table gives the areas closed and open in detail :—

Range.	Total area.	Area closed to grazing entirely.		Area open to grazing.		
		Area.	Per cent.	Settlement.	Forest Department.	Total.
Dungagali	41,023	39,418	96	1,605	...	1,605
Kaghan	57,487	30,614*	53	. †	26,873	26,873
Siran	20,986	7,298	35	5,159 ‡	8,529	13,688
Khanpur	31,786	31,040	98	746	...	746
Total ...	1,51,282	1,08,370	71	7,510	35,402	42,912

* Of this area 1,837 acres on which the villagers have Settlement rights to grazing, and which were closed as below, were opened to grazing for one month.

† 2,076 acres granted for grazing at Settlement; now closed under Section 29 of the Hazara Forest Regulation on account of fires in 1884.

‡ 5,095 acres, of which 801 have been closed.

Rawalpindi Division.—The area closed entirely was reduced by 17 square miles transferred to the management of the Military Department, and shown as partially closed, as cattle were only admitted in October. Two square miles of protected forests were also closed. Walling was repaired at Barakao, but no extension of the Khairi Murat wall was made, owing to want of funds.

Chamba Division.—There was an attempt on the part of Gujars to settle with their flocks and herds in several of the forests; but so far, His Highness the Raja has unhesitatingly issued orders to them to leave the leased forests. Grazing within the demarcated forests must be strictly confined to village right-holders, and we must look to His Highness to support us.

The fencing at Kalatop was kept up, and some 13,600 feet made at the very reasonable cost of Rs. 30.

Kangra Division.—Grazing was managed as in the previous year, and the reduction of the areas entirely closed and partially closed, each by 1 square mile, is not explained. The number of sheep and goats, the property of 'Gaddis', pastured in unreserved forests, was 1,36,451, as against 1,28,320 in the previous year. Free grazing in Bagarian and Mallanwal was not allowed, owing to a fire having occurred. No fencing was done.

Kulu Division.—The area entirely closed seems to have remained unchanged, but the Divisional Officer refers only to the two square miles (1,427 acres) over which cultural operations extend. 'Gaddi' shepherds, detained over the usual time in the valley, paid fees on 81,091 sheep and goats at the rate of annas five per 100. To the upper grazing grounds above Manali, 1,045 sheep from Mandi were admitted, while 500 grazed in Inner Seoraj and 630 in the Sutlej valley. The rate of fees was Rs. 3 per 100. Fencing was repaired and slightly added to.

Bashahr Division.—Only such grazing as is allowed as a right to a few villagers in the neighbourhood was permitted in the demarcated forests of the Kilba, Kailas and Chini ranges. Fences were repaired, and 1,400 feet of new fence cost Rs. 24.

Jhelum Division.—The Reserves entirely closed were the same as in the previous year, but their areas stand at 22 square miles instead of 27, owing to the exclusion of such portions as are burdened with rights. In addition, an area of 52 square miles (23 square miles reserves, 29 unreserved) is closed against camels, sheep and goats. No fencing worth noting has been done.

Chenab Division.—In the Gujranwala district, of the total area under the Forest Department, 0·6 per cent. was closed entirely, 18 per cent. for part of the year, and 37·5 per cent. against browsers. In the Gujrát district 20 per cent. is closed entirely, 4 per cent. partially, and the entire area against browsers. In the Shahpur district the entire area is open to horned cattle, and only 6·5 per cent. closed against browsers. In the Jhang district the entire area was open. In Sialkot the whole 84 acres were closed to browsers, and 12 acres entirely.

The proposed fuel and fodder reserves will modify these figures for 1886-87. The fences noted previously were kept up, and Rakh Ishar in the Shahpur district felled over during the year, was fenced by a thorn hedge 10 miles in length.

Lahore Division.—The decrease in the area, closed throughout the year against all kinds of cattle, is due to exclusion of the 21 square miles set apart as military grass preserves, which area was erroneously shown as "closed" in 1884-85. The military authorities have the privilege of cutting grass and pasturing cattle in this area, and of leasing out the grazing to contractors. The increase in area closed for half the year, and throughout the year against camels, goats and sheep, is due to the closure of different areas after felling.

The system of grazing management by permits, without insisting on pre-payment of grazing dues, was continued, but whenever possible fees were realized in advance. Owing to protracted drought and increase in the areas closed against camels, goats and sheep, the grazing revenue has fallen from Rs. 40,655 in 1884-85 to Rs. 26,851 in 1885-86, and the grass scarcity was so great that graziers removed their herds *en masse* to other Districts, with the result not only of a diminution of the grazing revenue, but of considerable outstandings of grazing dues which could not be realized owing to the absence of the debtors from the district. The Deputy Commissioner should enforce the system of advance payment, without which outstandings are unavoidable.

During the early part of the year grazing dues were (with the Deputy Commissioner's approval) levied on account of "*khiras*" (young cattle), which had previously been exempt. The alteration was, however, so unpopular, that the Commissioner desired its cancellation, and "*khiras*" accordingly continue to graze free of charge in spite of the very great inconvenience and difficulty in discriminating between cattle liable to payment of fees, and cattle exempt under the designation of "*khiras.*" The only fences are those round experimental plots closed for natural reproduction, and these have been kept up.

Mooltan Division.—All recently cut areas, excepting Reserve Pakka Haji-Majid, were kept closed, while other reserves were opened for a portion of the year. The area felled over in Nauraja Bhuta reserve, was fenced with 19,886 feet of thorn hedge, at a cost of Rs. 94. Experimental plots were fenced in the Vinoi and Bura Kotla reserves, as well as in the Mailsi range.

Montgomery Division.—The Deputy Commissioner and District Board have now agreed to close entirely, as fuel and fodder reserves for five years, eight of the reserved forests. As noted above, the reserves have never been as yet closed for an entire year; and it is not surprising that they do not stand out in any marked way from the open grazing area. It is hoped that circumstances will allow of the closings, now proposed, being carried out.

Phillour Division.—Plantations in the plains, the Sabathu area, and 3,000 acres of the Kalesar forest were entirely closed. From the former grass was sold. The remainder of the Kalesar forest was open to grazing, but only 209 head of cattle grazed. The annual lease of grazing in the three Sarangwal Birs was sold for Rs. 1,905.

The 1¼ mile of fence which closes the entrance to the *sal* forest was repaired. More seed of thorny creepers (*cæsalpinia sepiaria*) was sown, and a portion was planted with *aloe* at 5 feet intervals. These have succeeded very well.

The *phulai* and *jhand* seed sown round the boundary of blocks I, III and IV of the Phillour Plantation had failed. The *jhand* seed did not germinate, but there is a fair show of young *phulai.* Where the boundary is marked by a line of *phulai* stools with coppice, Mr. Down has had the shoots cut down to a height of 2½ feet and the sides trimmed, thus forming a neat and impenetrable hedge. Gaps were sown with *acacia farnesiana*, which promises to complete the fence. *Phulai* seed should be used in preference.

5.—Natural Reproduction.

Why noticed in this report

66. As requested in para. 4 of Review of the report, 1883-84, lengthy notice will be deferred till the report of 1887-88; at the same time it seems desirable to record a few facts observed during the past year, which would otherwise be overlooked. The exceptional crop of self-sown seedlings of deodar referred to in para. 108 of last year's report, was carefully watched in the Chamba, Kulu and Bashahr Divisions.

Chamba Division.—Abundant germination was observed in the Kalatop, Kainthli, Chatri, Sikri, Rupani, Kansar, Lindi-be, Sloh, Dand and Gotham forests. Many seedlings died in the hot months, but the exceptional rain at that period resulted in the survival of an unusually large number.

Kulu Division.—Natural reproduction of deodar was, in May and June, all that could be desired in the forests near Manali, parts of Rupi and Inner Seoraj; but, by the autumn a very large proportion of the young seedlings had disappeared. Those on the outskirts of the forests, or in more open parts along the roads, are said to have survived more generally. Mr. Lemarchand gives it as his opinion, that the dense undergrowth of shrubs and grasses, which springs up during July and August, is the chief cause of the failure of natural reproduction in deodar forests.

Bashahr Division.—A suggestion, made by the Divisional Officer, points to his observations having been similar to those in Kulu. Mr. Minniken recommends that in good seed years contour-bands should be staked out through the forests, and that all undergrowth suppressing seedlings, should be cleared from these bands during the rainy season.

Remarks on treatment of deodar forests

67. The conclusion to be drawn is not new, but may bear repetition.

Reproduction cuttings in our deodar forests are operations which, even when the forests consist of pure deodar, require to be done with much discrimination and intelligence; the admission of too much light on a dry southern aspect resulting in the seedlings being burnt up, while with the same fault on the colder moist aspects, leafy trees and shrubs get the upper hand, and go far to constitute the new forest. Where the forests contain only an admixture of deodar, the operation becomes more difficult, and the risk of the deodars cut out, being replaced by other less valuable trees, is very great. It is probable that the natural method of treatment by regeneration fellings should be rarely adopted, and that by far the majority of the forests, producing deodar, should be worked by *jardinage* or selection felling. If so, the aim should be to bring our forests to such a condition of irregularity, if it may be so called, that all ages from the seedling to the mature tree are generally represented all over the forest. In due course all fellings would take place over advance growth, and attempts to work for the restocking of entire slopes or compartments, with trees of uniform age, would not have to be made.

Experimental closed plots in the plains

68. The experimental plots in the plains divisions, fenced for the observation of natural reproduction, are kept up, and results will be duly recorded.

6.—Artificial Reproduction.

Cultural operations somewhat restricted

69. In compliance with Government orders limiting expenditure, operations were, as far as practicable, without loss or waste of material, restricted. Regular plantations with their water-supply had to be maintained at a cost of Rs. 23,637, and where plants were fit for transplanting and sowings had been arranged for, in the hill divisions, work was carried on. Nurseries were kept up and in some cases extended. The Pabbi reboisement work was continued. The total expenditure was Rs. 30,000, or only a few thousand rupees less than in the previous year; but this is explained by Changa Manga alone absorbing Rs. 21,308. The principal progress exhibited, is in the addition to cultural operations of—Hazara 55 acres, Chamba 40 acres, Kulu 67 acres, Bashahr 77 acres, and Chenab 108 acres. In all 395 acres are recorded as added, while corrections and failures caused the writing off of 155 acres; the year, therefore, showing an increase of 240 acres.

Details for Hazara

70. *Hazara Division.*—It is explained that the cultural operations at Changlagali, Kujagali and Kotli, though not very thriving and complete, may yet be said to be fairly good. Some deodar plants are available in the nurseries in Kaghan and the Gallis, but there are far too few, and the work of establishing more extensive nurseries has to be put in hand.

In the Khanpur range 52 acres were sown in August, in patches, with *phulai, chir, khair, kao* and *sissoo ;* but the area is reported to be imperfectly stocked. A small area was also sown in March. Nurseries were increased by 2½ acres, and a good quantity of *phulai* plants are available for planting out. Nurseries of *chil* (*pinus longifolia*) are also reported; these, however, are of little value, this species not being suited for plantation.

Details for Rawalpindi

71. *Rawalpindi Division.*—Repairs were done to the experimental plots at Barakao ; both *chir* and *phulai* seedlings were destroyed by hares and rats. The plots in Khairi Murat and 2 acres sown in Patriata are reported to be promising. Cultural operations, as previously noticed, have not as yet given any tangible results.

Details for Chamba

72. *Chamba Division.*—In the Kalatop forest 10,534 deodar and 1,308 walnut and other plants were put out, restocking 8 acres at a cost of Rs. 62. All nurseries were kept up and some new plots established. They are capable of containing 3 lakhs of seedlings, and some 50,000 were ready for planting out. During the year 17 acres were sown in patches, 9′ by 4′ apart, at a cost of Rs. 51. It is too early to say whether these sowings will eventually succeed. The germination was good, and the young plants were sheltered through the hot weather. The experiment of preparing the soil under seed-bearing trees has resulted in thousands of young plants establishing themselves naturally. In the Kainthli forest 3 acres were planted and 11 acres were sown ; the cost was Rs. 34 for the planted and Rs. 37 for the sown area. Nurseries capable of growing 2 lakhs of seedlings have been made, and some 30,000 plants were fit for transplanting. In Majour the cultural operations were completed, and one acre is recorded as stocked. The number of plants in the nurseries of the Padri Bohar forests has been increased to 30,000. The nurseries in Pangi contain some 20,000 plants fit for putting out.

Details for Kangra

73. *Kangra Division.*—In the Tatal reserve 15 acres were sown with *chil,* and the seedlings are getting on well in places. Five acres sown in the Samlian reserve did not succeed; and plantations of bamboos in the Dhamtal and Karanpur reserve were only partially successful.

Details for Kulu

74. *Kulu Division.*—The areas affected by cultural operations have, as far as practicable, been corrected. 67 additional acres were treated during the year, while corrections removed 126 acres from Form 52. Including 4 acres of failures in former plantations, 15 acres were planted out at a cost of Rs. 139. Sowings covered 56 acres, and cost Rs. 394. Nurseries received full attention, some 42 maunds of seed having been sown at a cost of Rs. 55. At the close of the year 563 acres of forest were closed, and in course of improvement by cultural operations, where required. Nurseries of pencil cedar in Lahoul have not succeeded, and no self-sown seedlings are found in the forests, where this species grows naturally. Spruce and silver-fir in seed beds are doing well.

Details for Bashahr

75. *Bashahr Division.*— Sowings were extended over 57 acres, and 20 acres were planted. The season was favorable, and these operations have succeeded over 70 per cent. of the area, which is sufficient. Nurseries were made in 15 places and sown with deodar or box, while all existing nurseries were cared for.

Details for Jhelum

76. *Jhelum Division.*—Blanks were filled up in the Piraghaib plantation and a small nursery established, at a cost of Rs. 42. Three acres of the Gandhala rakh were planted with *sissoo* and mulberry at the somewhat excessive cost of Rs. 249, which, however, includes the cost of a nursery, which failed, and the putting out of some *phulai,* which came to nothing. The maintenance of Ban-faqir-ulla cost Rs. 47 : it is only a partial success.

77. *Chenab Division.*—No addition was made to regular plantations, and eight acres were lost by erosion. Vacancies were filled up in the avenue of Kikranwali along the road, and a few *dhrek* (*Melia azaderach*) and *jaman* (*Eugenia jambolanum*) were put out in Chichra.

Details for Chenab.

The chief cultural operations were those in the Pabbi reserve, carried out during the monsoon. In all 108 acres were treated, and the total cost of the year was Rs. 1,173. The remaining 78 acres of the Dhokanwali basin was contour-trenched at about 6 feet intervals and trench and ridge sown with *kikar*, *phulai* and *jhand* seed mixed in equal proportions; *tali*, mesquit bean, *pine* and *dhrek* being also tried in favorable localities and in small quantities. A small quantity of *ber* seed was dibbled in behind the ridges, and 6 maunds of *sanatha* scattered broadcast between the trenches. After the completion of this area the plot of 30 acres purchased last year from Sher Ali, to the south of the Grand Trunk road, was ploughed and sown broadcast with *kikar*, *phulai* and *jhand*; where the ground sloped, trenches 2 feet square in section were made in contours at from 50 feet to 100 feet intervals, and the ridges sown with *tali* with an admixture of *phulai*. 500 transplants, principally *carob*, *dhrek*, *pine* and *lahura* were put out on the cooler aspects of ravines, and 100 *farash* cuttings were put in behind bands. The rainfall was unfavorable for cultural operations, with long breaks and heavy falls during the monsoons. On the 18th August, after one month of drought, 3 inches of rain fell in about the same number of hours, breaking nearly every *band* in the plantation, and carrying away all the dams in the Sar Begam branch of the Dhokanwali *kas*, made by way of experiment as described in the Annual Report last year. These dams did so much good during the time they stood, that it would be advisable to go to the expense of making the large and more important of these in masonry. No method of puddling will ever be effective, where, at certain seasons of the year, not a drop of moisture remains, and the soil cakes and cracks. All *bands* were repaired. Notwithstanding the unfavorable rainfall, the operations are a success, there being scarcely a foot of trench without at least one or two seedlings of *phulai* and *kikar*. The jhand seed was not good: there were few germinations, and the few weakly seedlings, which appeared, soon died off.

With the exception of the plots in the year 1883-84 work, repaired in 1884-85, which suffered considerably in the dry season, the plantation has maintained itself and is beginning to make a show.

78. *Lahore Division.*—At Changa Manga 5,109 *sissoo* plants were put out with fair success in blanks of compartments 24, 27, 28 and 37, and in several other compartments *farash* cuttings have established themselves. Four temporary nurseries were made, but the plants of one only were used. Blanks in compartments 30 and 31 were sown, and the seed has germinated abundantly.

Details for Lahore

A small nursery has been made in the Shadera plantation, from which it is proposed to stock blanks near the railway. This might have probably been better done by sowings *in situ*. Some 13,000 willow cuttings put out on the river bank did not succeed.

In the Jhok plantation the cultural operations of the previous year failed entirely, in consequence of protracted drought. A fresh start has therefore been made by resowing the nursery of the preceding year (2¼ acres) with *sissoo*, and repairing the adjoining well. A second nursery, an acre in extent, has also been sown with *sissoo*, provided with a kacha well, and carefully fenced with ditch and thorns. Both nurseries have been continuously watered since 3rd April 1886, and the seed has germinated freely. The total cost of the two nurseries, including fencing and wells, was Rs. 220, of which, however, only Rs. 173 were spent to the end of March 1886. About 2,000 acres of land, eminently suited for extension of the existing *sissoo* plantation in the Jhok reserve, are at present available on the river bank, and the nurseries have been formed with the object of commencing the stocking of this valuable site for a *sissoo* plantation.

In the Kot Lakhpat plantation blanks over an area of 53 acres were resown with *sissoo* and mulberry during June, July and August, at a cost of Rs. 107; but

owing to continuous drought and insufficiency of Canal water, about 50 per cent. of the seedlings withered, and the same result followed the sowing of 1½ acres with *phulai* and *jhand*. Still greater failure attended the planting of 6,400 farash cuttings over an area of 8 acres, at a cost of Rs. 33, as only about 25 per cent. have survived. Near the railway line about 23 acres, containing some *jhand* and *ber* trees of spontaneous growth, were stocked with *sissoo* seedlings, planted at intervals of 5 feet, during January and February. Most of the seedlings were planted without balls of earth, at a total cost of Rs. 171; but owing to the great delay in obtaining a supply of water, consequent on closure of the canal for repairs, only about one-third of the seedlings have established themselves. Many of the plants have been cut back; and since watering commenced in the early part of May, a number of coppice shoots have made their appearance. If the water-supply holds out during the hot weather, it is expected that the results will prove far more favorable than is apparent at present. The total expenditure on the Kot Lakhpat plantation during 1885-86 amounts to Rs. 1,119; but of this, a sum of Rs. 290 represents water rent, and Rs. 345 pay of *beldars*.

In the Nag plantation (Amritsar district) no cultural operations have been undertaken, but irrigation has cost Rs. 1,070.

Details for Mooltan.

79. *Mooltan Division.*—The plantation in Pakka Haji Majid has been shown as a failure since 1883-84. It has now been struck off the form. With the opening out of the new canal, it is proposed to utilize 3 *rajbahas* for the irrigation of the Vinoi reserve and a proposed extension, and undertake regular cultural operations.

Montgomery Division.—The experimental sowing of *jhand* in the Montgomery reserve promises to succeed. Within closed areas and in favorable years such sowings will result in something, even in the Montgomery reserves.

Details for Phillour.

80. *Phillour Division.*—Plantation works in Sabathu and Dagshai were put off for want of funds. Blanks in the Phillour plantation were sown. The nurseries at Sabathu and Phillour were kept up, and contain a number of young plants fit to put out.

7.—Early thinnings, Removal of Inferior species, Cutting of Creepers, &c.

Thinnings, cutting of creepers, etc.

81. The Jagadhri plantation of 201 acres was thinned at a cost of Rs. 297; it yielded 45,500 cubic feet of stacked fuel, which sold at 26 rupees per 1,000 cubic feet. Weeding extended over 316 acres in Kulu, and the lines of old sowings and plantings were cleared of grass, ferns, &c., where young plants were covered by such growth. Creepers were cut out over two square miles of the Kalesar forest.

The Bagarian plantation of the Kangra Division was divided into 10 compartments, and these will be felled over in rotation, and *kana* grass uprooted. This plantation is much complained against by the surrounding Muhammadan population, from whom the land is leased, on account of its forming a covert for pigs.

8.—Experiments and Exotic trees.

Seeds from Cape Colony.

82. Seeds of the following species were received through the Conservator of the School Circle, North-Western Provinces, from Cape Colony; and though carefully sown by different officers, none germinated:—Sueezewood, *Pteroxylon utile*; yellow wood, *Podocarpus elongatus onterriqua*, upright yellow wood, *Podocarpus latifolius*. More recently a further supply of Sueezewood seed has been received, and is being sown.

Australian seeds.

83. A packet of seeds was received from the Inspector-General of Forests containing 28 varieties of Australian trees, originally forwarded by Baron Von Müeller. The seeds of two varieties only germinated, and the plants of these, *Acacia senlis* and *Bursaria spinosa* are thriving at Changa Manga.

Eucalypti.

84. Seeds of *Eucalyptus arnigera*, *Eucalyptus coccifera* and *Eucalyptus gummii* were distributed to the Hazara, Chamba, Rawalpindi and Lahore Divisions, and young seedlings of all species are reported from the two former Divisions. It would seem that little care was bestowed on the seeds in Rawalpindi and Lahore, for none germinated at Rawalpindi or Changa Manga, and only 16 seedlings of *Eucalyptus arnigera* and three of *Eucalyptus coccifera* are said to be living in the Carob plot. Of established species *Resinifera*, *Citriodora* and *Rostrata* are the most healthy in the Carob plot. A number of fine specimens of various species flourish at Changa Manga, Abbottabad, Chamba, Kulu, and elsewhere. They suffer very much in the hills from storms, and snow especially, where planted singly; they make the best show when planted in groups, and rapidly attain a useful dimension. In the Pabbi reserve no species seems to be able to withstand the drought and sterility of the soil. In the Kikranwali reserve watering is necessary in the dry seasen, and floods during the past year killed the smaller and younger plants. Captain Lee is of opinion that *Eucalyptus longifolia* has succeeded best of all species tried in Kulu. It would appear to be less brittle and less liable to injury from snow than the other kinds. Seed collected from two species in Hazara was sown in 100 pots, and all has germinated.

Carob.

85. All the Carob trees planted prior to 1885-86 are healthy, and a number have flowered and fruited during the past year in the Carob plot, and also at Changa Manga. More seedlings were put out during the year. The trees in the Pabbi reserve are not succeeding, and 20 plants put out in the Karanpur forest, Kangra, failed for want of rain.

Acacia Melanoxylon.

86. There are now six trees of this species, 12′ to 15′ in height, at Bakloh, and its cultivation seems worthy of extension at similar altitudes.

Paliurus aculeatus.

This hedge plant has been cultivated to a larger extent in Chamba, and its progress will be carefully watched.

Box.

87. The cultivation of box in the Kainthli reserve of the Chamba Division makes but little progress. The trees grow very slowly to begin with.

Lee Garden, Kulu.

88. No additional information worthy of note is forthcoming beyond the remarks that Captain Lee considers the Cork oak, *Catalpa bignonioides*, Lombardy poplar, and the species of *Cupressus* to be the most flourishing of all the exotic trees introduced.

Spanish Chestnut.

89. The trees of this species bore fruit in quantity in Kulu and Bashahr. In the former Division seed was distributed to village headmen; in the latter nurseries were sown with the view to raising plants for distribution to the people.

Atriplex nummularia.

90. The Salt bush has been raised in the Carob plot in considerable quantity. With water the plant flourishes readily, but it remains to be seen whether it can survive without artificial aid in the dry soils of our rakhs. Plants will be put out in September in the Kot Lakhpat plantation. No report has yet been made on the plants put out in the Pabbi, Chichra and Kikranwali reserves of the Chenab Division.

European trees.

91. European species as noted in previous reports continue to prosper in the Hill Divisions.

Carob plot.

92. The Carob plot in Lahore contains seedlings of *pipal*, *jaman*, *catalpa*, *cordia*, olive, as well as poplar cuttings available for distribution. The year's expenditure of Rs. 265 covers water-rent Rs. 67, and pay of mali and beldar Rs 168.

9.—Communications and Buildings.

General.

93. The total expenditure of the year under this head was—

	Rs.
Communications	3,217
Buildings	4,442
Others works	19
Total ...	7,678

or Rs. 3,131 less than in the previous year.

Only remunerative works, or those of absolute necessity, were carried out; and in compliance with orders, consequent on the financial difficulty, expenditure was kept as low as possible.

Detail for Divisions.

94. *Hazara Division.*—The Thundiani-Nathiagali road underwent the annual repairs, and some six miles of paths were opened out in the Dungagali and Khanpur ranges. Repairs to houses and huts were carried out. The only new work was a cheap hut and shed for storing charcoal at Abbottabad.

Rawalpindi Division.—Repairs to roads and buildings cost Rs. 322.

Chamba Division.—A road was constructed from the Sikri forests to serve for the extraction of sleepers. It is 5 feet wide and 4,500 yards long, and cost Rs. 247. Repairs and a shed for scantling at Kalatop were the only works under buildings.

Kangra Division.—Rs. 498 were expended on the necessary repairs.

Kulu Division.- The only item of expenditure, beyond the cost of petty repairs, was Rs. 220, representing the cost of completing the Phulga house. The building of the forest house at Naggar was deferred for want of funds.

Bashahr Division.—The expenditure in this Division was Rs. 3,596, or nearly half that for the province.

	Rs.
Communications ...	2,260
Buildings	1,317
Other works	19

Rs. 930 were expended on roads from the Nogli mouth to the box forests at Darkali and Khashapat. A short road was made to the Ralli forest from the Baspa. A sleeper transport path was opened out from Nachar to the river. The Balli road was partially repaired, and all bridle paths kept up. A bridge was built over the Punang, and a wire rope was thrown across the Sutlej below Kilba. Four godowns were built at Simla for the safe storing of boxwood; and necessary repairs executed.

Jhelum Division.—Repairs cost Rs. 621.

Chenab Division.—A Ranger's and Forester's hut were built in the Pabbi reserve for Rs. 166; and the usual repairs were done.

Lahore Division.—Repairs only were executed at a cost of Rs. 123.

Mooltan and Montgomery Divisions.—A guard's hut was built, and repairs done in each Division.

Phillour Division.—Repairs cost Rs. 88.

CHAPTER IV.

I.—Departmental operations.

(*a*).—*Working of the Forests.*

Out-turn of forests and removals or conversions by Government Agency

95. Appended Statements Nos. 53 and 54 give detailed accounts of all trees felled from selection fellings, as well as the out-turn of the forests in cubic feet.

6,144 deodar trees, 1,130 box trees, and 266 pines and other trees were felled, or 7,540 as against 4,617 in the previous year.

The out-turn of the forests is now, for the first time, given throughout in cubic feet of timber; it was, during the year, from Reserves 71,26,698 cubic feet, from Protected forests 91,037 cubic feet, and from District forests 28,10,548 cubic feet, or in all 1,00,28,283 cubic feet = over two lakhs of tons. It must however be noted that fuel is included in most cases in cubic feet stacked not solid, no reliable reducing factor having been obtained. Of this total, Government agency removed 28,81,296 cubic feet.

For purposes of comparison the out-turn of 1884-85 removed by Government agency shown in numbers of logs, scantlings, &c., may be estimated at 24,99,555 cubic feet.

Timber and fuel account

96. Statement No. 56 gives the account current of timber brought to depôt and that sold both locally in the forest and from depôts. The usual abstracts are given in order to show the transactions of the different divisions, information which does not appear on the face of the Provincial Statement.

I.—*Timber and fuel received in sale depôts from the forests in cubic feet.*

Division	Deodar logs	Pine logs.	Sleepers. B. G.	Sleepers. N. G.	Deodar scantlings.	Other scantlings.	Box wood.	Miscellaneous scraps and pieces, &c.	Total cubic feet
Chamba	18,122	8,526	100,331	...	4,198	4,407	...	354	1,35,938
Kangra	36,680	553	68,018	14,362	...	36	...	...	1,19,649
Bashahr	264	...	...	...	...	...	2,000	...	2,264
Jhelum	116,001	46,893	71	...	...	38	...	18,994	1,81,997
Chenab	15,052	4,148	93	...	...	...	...	3,221	22,514
Mooltan	242	8	289	...	...	...	...	85	624
Phillour	128,802	6,221	...	...	...	...	...	820	1,35,843
Total ...	315,163	66,349	168.802	14,362	4,198	4,481	2,000	23,474	5,98,829

Add.—Drift and waif ... 5.436 pieces.
Scraps ... 107
Poles ... 807
Other scantlings ... 40 "

II.—*Timber and fuel removed by purchasers from depôts in cubic feet.*

Division	Deodar logs.	Pine logs.	Sleepers B. G	Sleepers N. G	Deodar Scantlings.	Other Scantlings.	Box wood.	Miscellaneous scraps and pieces, &c.	Total
Chamba	17,724	8,154	1,00,290	...	2,158	3,372	...	354	1,32,052
Kangra	36,518	446	25,723	8	...	15	...	...	62,710
Bashahr	264	...	..	..	37	...	8	222	309
Jhelum	1,14,918	66,341	52	...	...	38	...	16,519	1,97,868
Chenab	15,052	4,148	93	...	...	...	...	2,819	22,112
Mooltan	...	...	270	...	...	...	...	45	315
Phillour	1,99,061	6,221	...	5,930	...	...	...	346	2,11,558
Total ...	3,83,537	85,310	1,26,428	5,938	2,195	3,425	8	20,083	6,26,924

Add.—Drift and waif ... 183 pieces.
Poles 870

III.—*Timber and fuel sold locally.*

Division	Deodar logs.	Pine logs	Sleepers. B. G.	Miscellaneous Scantlings.	Miscellaneous scraps and pieces.	Total.
Hazara	491	...	...	3,111	...	3,602
Chamba	2,676	1,381	6,930	160	..	11,147
Kangra	122	...	...	...	...	122
Chenab	92	...	...	...	39	131
Phillour	37	...	...	...	...	37
Total ...	3,418	1,381	6,930	3,271	39	15,039

Add—Drift and waif ... 768 pieces.
Pine trees ... 128
Deodar trees ... 68
Tors and ballies ... 2,194
Salvadora posts ... 300

97. In the hill forests some detailed account of the work of felling, logging and launching seems called for. Trees felled and their yield in logs, sleepers, &c., appear in the statements, but there is nothing to show the balance of unconverted trees in the forests, nor do the returns give any connecting link between timber launched and the receipts in depôt. Sufficient detail to allow the results of operations to be followed and balances to be carried on, is therefore embodied in the report.

Working of the hill Divisions.

98. *Hazara Division.*—Of the 566 deodar felled in the Nuri forest in Kagan, 552 and 100 windfalls were converted into 2,736 logs, and 2,256 sleepers; 108 logs were obtained from the Shinu forest, 4 from trees in hand from previous year, while 104 were found in excess of the number reported in 1882. 734 sleepers were converted in the Malkandi forest from 22 trees and 3 logs.

Work in Hazara.

The fellings of the Dungagalli Range amounted to 36 blue pine, 46 silver fir, 16 oaks; the latter were made into charcoal for Abbottabad, the former were converted into scantlings and shingles.

During the year 3,016 logs were launched, and also 699 sleepers; of the logs, 1,032 were of the year, and 1,984 from the balance of the previous year. At the close of the year the returns showed a balance of 4,199 logs in the forests. 1,704 of the year and 2,495 of the former years. This balance, as previously reported, is incorrect, and Mr. Pinder, who has made an enumeration of all logs in the forests, has not submitted a sufficiently satisfactory report to allow of its being corrected. There are numbers of logs, some half rotten, some only partially prepared, and so unfit for launching. These will be systematically worked out, when of sufficient value, from immediately below Narang; the balance in the forests being gradually reduced and finally corrected.

A counting of stranded logs gave:—

1885 launchings	1,123	1,936
1884 "	256	
Other years launchings	557	
Sleepers	472	

99. *Chamba Division.*—The Bakani temporary slide was completed to the river at the end of October. A separate report by Mr. McDonell, Deputy Conservator, is given as Appendix I. The Ravi was too low, when it was met by the slide, to allow of launching being carried on immediately after the completion of the slide, and the work had to be deferred till the river rose after the close of the year.

Work in Chamba

Fellings were as follows —

Range.	Deodar.	Pines.	Others.	
Pangi ...	1,425	...	...	
Upper Ravi ...	1,502	...	...	
Kalatop ...	64	72	10	
	2,991	72	10	3,073

No account of the yield in logs, sleepers &c., is given, and it is not known what balance of trees remained to be converted, or what logs were on hand in the forests. The Divisional Officer has apparently not understood what is required in Form 54, outturn in cubic feet of logs scantlings, &c.; he has probably included cubic contents of all *trees* felled, instead of the different products of their conversion. Broad gauge sleepers to the number of 25,077 were converted and launched in the Ravi; some 12,000 sawn remaining in the forests, and 6,265 sleepers were launched from the Pangi forests in the Chenab. Some 1,800 rejected in forests had still to be launched.

100. *Kulu Division.*—From the 553 deodar trees felled and waste wood in the forests 830 logs were obtained, as well as 13,074 broad gauge and 412 narrow gauge sleepers. The entire outturn was launched, and the cost of extraction, including relaunchings of stran-

Work in Kulu.

ded timber averaged Rs. 2-8 per log and Re. 0-8-7 per sleeper. Floods were not satisfactory, and the Bias and Parbatti rivers are credited with holding 2,695 stranded logs.

101. *Bashahr Division.*—Fellings of the year with balance in hand amounted to 3,100 deodar and 59 blue pine trees. Of these 1,960 trees were converted into 7,034 logs and 46 broad gauge sleepers, leaving a balance of 1,199 unconverted trees—presumably deodar—in the forests.

The logs obtained with previous year's balance of 4,381 gave a total of 11,415, of which 6,836 deodar and 115 blue pine were launched, 528 logs were converted into 7,612 broad gauge and 22 into narrow gauge sleepers, and 23 were used for slides. There remained, therefore, 3,891 deodar logs in the forest.

Of the broad gauge sleepers 3,238 were launched and 4,835 were stacked on the river bank; the 102 narrow gauge were still in the forest.

Eleven hundred and thirty box trees were cut and yielded 7,703 pieces, measuring 4,922 cubic feet, and weighing 4,164 maunds: 4,175 of the pieces were carried to the road at the mouth of the Nogli, and 3,000 of these were sent on to Simla.

The stranded timber on the Sutlej was reported as 1,986 logs and 7,662 sleepers.

(*b*).—*Receipts in Depôt.*

Detail for all rivers and depots.

102. There was a slight increase in the timber brought to depôt, as compared with the previous year, but again the floods in the main rivers were not favorable.

Chamba Division.—In addition to the logs which reached Shahdera, 4,816 logs were worked down to near depôts and will be delivered on the first floods of 1886-87.

The following statement shows logs launched in different years and received in depôt during the year :—

	Previous to 1877.	1877.	1878.	1879	1880	1881.	1882	1883.	1884.	1885.	Without year.	No. and year effaced.	Total
Deodar	22	20	15	2	1	34	263	46	36		294	110	843
Pine ...	...	..	3	.	..				168	19	206	25	421

Kangra Division.—Receipts in depôts were much in excess of the previous year; 1,181 deodar logs averaged 31 cubic feet.

Bashahr Division.—2,000 cubic feet of box wood were received in depôt at Simla. The Suni Depôt was given up.

Jhelum Division.—Somewhat less timber was received than in the previous year.

The following table shows the number of logs received in Jhelum Division, and launched by the Hazara Division year by year since 1883-84 :—

Forest mark.	*Launched during*		*Number of logs received in each year.*				Balance due
	Year.	Logs.	1883-84.	1884-85.	1885-86.	Total.	
	1883-84	2,000	...	692	522	1,214	786
	1884-85	2,133	...	544	1,111	...	...
S. (Shinnun)	...	...	...	...	84	1,739	394
S. "	1885-86	1,933	...	...	1,065	1,065	868
N. (Nuri)	...	1.032	...	...	10	10	1,022
Total ...		7,098	...	1,236	2,792	4,028	3,070

There is a discrepancy as to the number of launchings, differently given by Hazara Division.

The deodar logs received were originally launched in the following years :—

Previous to 1880	1880	1881	1882	1883	1884	1885	Without year	Timber bearing no marks	Total
179	10	...	..	522	1,195	1,075	269	884	4,134

The above statements should be given for each River Division, so that an accurate comparison may be carried on from year to year, and the percentage of logs lost in transit clearly shown.

Chenab Division.—The receipts of both marked and unmarked drift fell off. The logs and sleepers received were originally launched as follows :—

Previous to 1880	1880	1881	1882	1883.	1884	Not marked	TOTAL
			DEODAR LOGS				
23	5	8	34	87	99	160	416
			PINE LOGS				
1	1	...	...	...	2	10	14
			SLEEPERS				
..	...	...	...	...	...	17	17

Phillour Division.—A new depôt was opened at Dourâhá for the receipt of timber floated from Rupar to the Railway line by way of the canal. Want of water below the head of the canal, and the impossibility of getting timber passed through the flood gates, necessitated the use of the canal and the outlay of the consequent floating dues.

The river will still be used when circumstances permit and the depôt at Phillour will be kept up. A larger quantity of timber arrived than in the previous year, due chiefly to sweeping parties having done their work better.

No comparative statement of launching and receipts or abstract of logs with years of launchings has been furnished.

(*c*).—*Sales from Depôts.*

Depôt sales

103. During the year, 6,26,924 cubic feet were sold as against 5,80,873 cubic feet in the previous year. There was a brisk demand for logs, and broad gauge sleepers never commanded a more ready sale.

The following average pieces per cubic foot were realized :—

Description of timber	Chamba	Bias	Jhelum	Chenab	Phillour
	Rs A P	Rs A P	Rs. A P	Rs A P.	Rs A P.
Deodar logs	0 9 4	0 12 8	0 11 4	0 10 6	0 9 11
Pine logs	0 6 7	0 5 10	0 3 6	0 5 0	0 4 5
Sleepers 6'-9"	* 2 14 1	* 3 1 0	..	* 2 8 0	.
Waste wood	...	...	0 1 0	0 3 0	...

* Per piece

(*d*).—*Local sales.*

Opening of small local depôts in Hazara

104. *Hazara Division.*—The quantity of shingles disposed of was double that of the previous year. The sales of firewood were also considerably increased by the disposal of 2,530 maunds at Abbottabad, and of a small quantity at Naushera.

105. *Rawalpindi Division.*—The Murree Brewery was supplied with 2 lakhs of cubic feet of firewood and 2,364 maunds of charcoal. The station of Murree consumed 10,000 maunds of charcoal.

Supply of Murree and the Brewery.

106. *Chenab Division.*—The Punjab Northern (now North Western) State railway was supplied with 1½ lakhs of cubic feet of *jhand* fuel from the Bhera rakhs at the rate of Rs. 7-10-0 per 100 cubic feet. The brushwood from the cuttings sold for Rs. 2,500, and windfalls with other minor sales realized Rs. 1,020.

Sales from the Bhera rakhs to the railway.

107. *Lahore Division.*—The yield of the Shahdara plantation in clearance fellings and thinnings amounted to 1,47,298 cubic feet, of which 1,46,298 cubic feet were sold at Rs. 5-3-0 per 100 cubic feet, the balance being used departmentally.

Sale of fuel from Lahore Division plantations.

From Changa Manga 5,21,210 cubic feet were sold to the North Western Railway at Rs. 5-8-0 per 100 cubic feet. As some of the compartments felled were situated at a long distance from the Railway, additional tramway plant consisting of one mile of rails and 20 wagons of a new and improved pattern were purchased for Rs. 7,748 (including railway frieght). The total length of tramway now in stock is 2½ miles, the whole of which was in use during the year.

The following fuel was also sold from Changa Manga :—

		Rs.	A.	P.
40,000 cubic feet	@	6	0	0
32,390 „ „		5	14	0
75,000 „ „		0	12	0
140 „ „		3	4	0

The average price realized over the whole outturn was Rs. 5 per 100 cubic feet stacked.

108. Local sales in other Divisions were insignificant, and call for no special notice.

Minor local sales.

Bamboos, grass, and other minor produce extracted by Government agency sold for Rs. 15,190, bamboos alone, in the Kangra division, realizing Rs. 15,169.

2.—Removal of produce by purchasers.

109. Statements Nos. 54 and 55 contain full detail of all forest produce removed by purchasers.

Timber and firewood removed amounted to 67,22,491 cubic feet, or less than that of the previous year, which may be estimated at 74,70,291 cubic feet. Some 6 lakhs of cubic feet of firewood, sold and paid for in the previous year in the Mooltan Division, were only actually removed during the year under report; or the transactions of 1885-86 would be in excess of those of 1884-85. The details for Divisions are set forth in Statement No. 54.

Timber and fuel.

110. Bamboos, grass, and other minor produce removed by purchasers, as shown in Statement No. 55, realized from all forests Rs. 1,57,220.

	Rs.
Reserves . .	49,322
Protected forests	9,804
District forests	98,094

The tabular form contains all details for Divisions.

3.—Free Grants of Forest produce.

111. These too will be found fully detailed in Statements Nos. 54 and 55. Timber aggregating 2,36,016 cubic feet was granted free, 1,33,830 cubic feet from Reserves and 1,02,186 cubic feet from District forests.

Right-holders received in all 1,88,480 cubic feet of wood, 46,120 cubic feet from Reserves and 1,42,360 cubic feet from District forests. Minor forest produce was granted to right-holders and others to the value of Rs. 640 from Reserves and Rs. 33 from District forests. As only estimates of value of the wood are forthcoming, no useful comparison can be made with the grants of previous years.

112. IMPORTS AND EXPORTS.

River by which timber was exported.	Territory from which the timber came	Deodar.	Pine logs.	Other logs.	Sleepers.	Scantlings.	Bamboos.	Miscellaneous timber.
Ravi ...	Kashmir ..	3,658	10	...	720	361	...	85,000
Beas ...	Mandi and Kapurthala			...	1,07,295	...	.	24
Sutlej ...	Native States ...	277	392	...	36,555	...	36,775	2,274
Jhelum ...	Kashmir ..	12,261	809	.	661	...	..	1,55,253
Chenab .	Kashmir ...	25,047	2,427	...	1,60,640	...	41,197	..
Indus ...	Native States and the Kahul river, Swat river and Indus ..	...	...	1,09,578	..	...	...	*36,472
	Total ...	41,243	3,638	1,09,578	3,05,871	361	77,972	2,79,023

* Shingles.

These figures compare with those of 1884-85 :—

Description of timber.	1884 85	1885-86	More.	Less
Deodar logs ...	26 197	41,243	15,046	...
Pine ...	1,653	3,638	1,975	...
Other logs ...	10,322	1,09,578	99,256	...
Sleepers ...	2,72,698	3,05,871	33,173	...

And show that timber traders brought to market considerably more of each class of timber than in 1884-85.

CHAPTER V.—FINANCIAL RESULTS.

General

113. The financial results of the year compare as follows with those of the two previous years :—

Year	Receipts.	Charges.	Surplus
	Rs	Rs	Rs
1883-84	9,10,177	6,53,146	2,57,031
1884-85	7,49,352	5,58,070	1,91,282
1885-86	8,50,419	6,75,483	1,74,936

The revenue was nearly a lakh in excess of the previous year, while the expenditure exceeded that of 1884-85 by Rs. 1,17,413, thus reducing the surplus to Rs. 1,74,936, and making it less by Rs. 16,346 than that of 1884-85.

Full explanation of the extra expenditure is given, as it would otherwise appear that the orders of Government to reduce expenditure on all sides and realize all possible revenue, had not been literally acted up to.

Revenue.

114. The figures of the revenue sufficiently show what was done in the latter direction; and had it not been for the abnormal scarcity of grass and the inability of graziers to pay their dues, a further sum of Rs. 40 to 50,000 would have been collected.

Expenditure.

115. The extra expenditure was entirely incurred on remunerative works, the corresponding revenue for which will be realized during the current and next years. Under timber and other works removed by Government agency, Rs. 2,28,405 were expended as against Rs. 1,21,932 in the previous year. The entire cost of the Bakáni slide, Rs. 31,000, was charged off during the year, previous outlay of some Rs. 30,000 having stood as an advance. Extra outlay was necessary in order to provide sleepers for the increased demand, and an exceptional expenditure was incurred on the extraction of boxwood still undisposed of. Under A II, a saving of Rs. 400 was effected.

The expenditure on driftwood, A III, has to be regulated by the season; Rs. 8,297 were expended for a revenue of Rs. 33,000, as against Rs. 9,696 for Rs. 36,000 in 1884-85. The figures of 1884-85 should also include a sum of Rs. 2,079 debited to A IV, the greater part of which was chargeable to A III.

A V, represents the rent of leased forests and payments to shareholders of forests, and could not be reduced; it stood at Rs. 40,487.

Little saving was effected under A VI, purchase of live stock and stores, as the necessity for extra tramway stock was recognised, and its purchase for Rs. 7,748 was sanctioned. The total expenditure was Rs. 12,320, and in the previous year Rs. 13,899. Communications and buildings cost Rs. 7,678, as against Rs. 10,809. Roads had to be kept in repair, new paths opened out for the extraction of sleepers, and necessary repairs to buildings could not be put off without involving loss.

Forest demarcation cost Rs. 28,776, or Rs. 20,000 more than in the previous year; the extra sum is due to the cost of demarcation in Kangra and Kulu, including the pay and allowance of the Forest Settlement Officer for the whole year. Only the small sum of Rs. 593 was expended on compensation for land included in the Murree and Kahuta forests. Surveys and working plans cost Rs. 1,864, exclusive of pay of Working Plans Officer and establishment. It was duly considered whether this work could not be deferred and a saving effected, but the Local Government decided that the importance of the work precluded its being postponed for so trifling a sum. Plantations, A VIII (*d*) cost Rs. 19,000 less than in the previous year, consequent on the water-rate of Changa Manga having been paid for two years in 1884-85, and on the savings effected by operations being limited to maintenance and the utilization of material in stock.

On fire protection Rs. 1,185 were expended, as against Rs. 926 in the previous year. Other works, A VIII (*f*) and Miscellaneous A IX, cost much the same as in the former year. The total result was that Conservancy and works cost Rs. 2,54,111 in 1884-85 and Rs. 3,67,564 in 1885-86.

B. Establishments cost Rs. 4,000 more in 1885-86 than in 1884-85, a result due to the fact of one supernumerary gazetted officer being attached to the Province, and to the exceptional fact of the complete staff for a part of the year being on duty.

Comparison of the year's transactions

116. The value of the year's transactions was—

	Rs.
Cash surplus	1,74,936
Difference of stock in sale depôts in favor of the year	1,896
Value of year's transactions	1,76,832

Compared with the results of previous years—

	Rs
1883-84	2,18,457
1884-85	1,30,756
1885-86	1,76,832

thus showing an increase of Rs. 46,076 as compared with 1884-85, and a decrease of Rs. 41,625 as compared with 1883-84.

The following table for purposes of comparison of results, division by division, is given as usual :—

Divisions.	Receipts.	Charges	Surplus	Deficit
Hill Divisions.	Rs.	Rs	Rs.	Rs.
Hazara	78,464	52,658	25,806	...
Rawalpindi	55,162	38,271	16,891	...
Chamba	1,19,001	1,71,563	...	52,562
Kangra	47,481	51.092	...	3,611
Kalu	53,070	51,506	1,564	...
Bashahr	1,30,432	82,964	47,468	...
Plains Divisions.				
Jhelum	37,929	34,038	3,891	...
Chenab	88,856	36,187	52,669	...
Lahore	1,08,064	70,302	37,762	...
Mooltan	48,284	17,181	31,103	...
Montgomery	73,915	10,661	63,254	...
Phillour	9,191	17,511	...	8,320
Direction	570	41,549	...	40,979
Total ...	8,50,419	6,75,483	1,74,936	...

Explanation of differences by Divisions.

117. The deficit in the Chamba Division is entirely due to the large timber operations in hand, and will be recouped. Hazara, Rawalpindi and Kulu all show a surplus, whereas they were in the previous year worked at a loss. The surplus of the Bashahr Division has risen to the handsome sum of Rs. 47,468, and it is due to the Kangra Division to note that a surplus would have been shown, had it not been for the cost of the Settlement operations debited equally to it and Kulu. The smaller receipts of the Chenab Division were consequent on the non-realization of grazing dues. In the Gujranwala district alone, Rs. 25,942 were outstanding, and the Deputy Commissioner asked for sanction to defer the collection on the ground of the great distress prevailing amongst cattle-owners.

In the Lahore district the scarcity of grass led to cattle being driven out of the District, and dues fell from Rs. 40,655 in 1884-85 to Rs. 28,169 in the current year, of which Rs. 1,318 were still outstanding. Sales of wood were much smaller. A reduced area was cleared in Changa Manga, and sales to the railway represented, consequently, Rs. 39,000 less than in the previous year. Some 9,000 acres of rakh land less than in 1884-85 were cut over in the current year. In the Mooltan Division the grazing revenue was slightly less; but sales of fuel brought the year's surplus to Rs. 8,000 more than in 1884-85.

In the Montgomery Division, owing to the grass famine, exactly 50 per cent. of the grazing dues from unreserved forests were unrealized; the further collection was suspended by the orders of the Financial Commissioner, and one-sixth part of the dues were, by him, entirely remitted. The opening of the reserve *free* caused a loss of revenue estimated at Rs. 1,000.

Comparison of financial results.

118. The classified results of the year, as given in Form 62, compare as follows with previous years :—

	1883-84.		1884-85.		1885-86.	
	Surplus.	Deficit	Surplus.	Deficit.	Surplus.	Deficit.
I Departmental timber operations ...	1,44,563	...	1,02,586	...	99,329	...
II Other Revenue ...	2,99,436	...	2,71,983	...	2,53,874	...
III Protection, &c. ...	...	1,86,968	...	1,83,287	...	1,78,267
	2,57,031	...	1,91,282	...	1,74,936	...

119. As explained above, considerable sums were outstanding on account of grazing dues, particularly in the Chenab and Montgomery Divisions, and the total balance of revenue due amounted to Rs. 55,840, as against Rs. 19,125 at the commencement of the year.

Outstandings of revenue.

120. The outstandings against contractors in the Chamba and Bashahr Divisions were covered by work done, but not measured up. The total amount outstanding against both contractors and disbursers was, at the close of the year, Rs. 35,103, as against Rs. 53,434 at the commencement.

Other outstandings

CHAPTER VI.

General Remarks.

121. The experiment in silk culture at Changa Manga, successful in the two previous years, failed during the past season, it is said, owing to a few unseasonably hot days. Whatever may have been the cause, about the period of the last moulting and only a short time before spinning, the temperature in the sheds being 97°, disease appeared in every shed simultaneously and killed off three-fourths of the worms. Further experiment seems unnecessary, for the villagers are not inclined to take up the industry, and private speculators are not tempted to undertake it on a scale likely to be financially successful. It has been shown that cocoons of excellent quality can, under favorable circumstances, be produced at Changa Manga; and, possibly with better sheds, or some special care, or by the regular importation of new eggs or by the careful segregation of country bred and imported eggs, disease may be avoided, and a regularly good production obtained.

Silk culture at Changa Manga.

The cost of the experiment has been—

Year	Receipts	Expenditure.	Deficit
	Rs	Rs.	Rs
1883-84 ...	100	163	...
1884-85 ...	729	1,165	...
1885-86 ...	32	1,216	...
1886-87 ...	...	407	...
	871	2,951	2,080

Deducted value of 260 lbs. cocoons in stock at Rs. 40 per 80 lbs. .		130
	Rs.	1,950
Sheds in stock cost Rs.	...	1,064

122. The deodar forests of the Mandi State, examined by Mr. Gisborne-Smith, were reported upon. It was found that there remain some 13,200 marketable trees, of which 3,000 are not workable, owing to their inaccessibility. If the Trading Company carry out the terms of the contract, and for six years more cut out annually 1,500 trees, they will make a clean sweep; and, for the period necessary for a 2nd class to become a 1st class tree, say 30 years, no marketable deodar will be available. Mr. Wild, when officiating Conservator, proposed to divide the forests into four blocks, and to limit fellings to 1,250 trees once in five years; one block being gone over at a time. This would be a good arrangement, and, provided grazing and fires could be restricted, would be a safe way of working. With fires and grazing the future of the forests will not be secured by any arrangement short of abstaining from all fellings. Proposals, based on the report, have been made by the Commissioner of Jullundur, to modify the terms of the Company's lease, and the matter is under the consideration of Government.

Report on Mandi forests

Collection of exhibits for the Indian and Colonial Exhibition.

123. An extensive collection of forest produce and other economic products was made for the Indian and Colonial Exhibition, and despatched through the Inspector-General of Forests.

Ripening of seeds.

124. Mr. J. C. McDonell, Deputy Conservator of Forests, has by careful observations ascertained that deodar seed ripens 14 months after the first appearance of the young cone in the middle of August, while the seed of the *pinus longifolia* takes from 24 to 27 months to mature. This is the opposite of what was supposed to be the case.

Kashmir river rules.

125. The Kashmir river rules, consequent on a reference from the Local Government, were still under the consideration of the Durbar, and pending their enforcement no difficulties in working were experienced.

H. C. HILL,

Offg. Conservator of Forests, Punjab.

STATEMENTS.

Annual Form No. 49.

Forest Department, Punjab.

Area of Reserved Forests, 1885-86.

Division.	Range.	Civil District or Territory.	Name of Forest, Unit or Working Circle.	Area on 1st April 1885. Acres.	Area on 1st April 1885. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1886. Acres.	Area on 31st March 1886. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks.
Hazara.	Dungagali	Hazara ...	Dungagali Range Reserves ...	...	63	703	...	41,023	64·10		
	Kaghan ...	,, ...	Kaghan Range Reserves ...	...	90	...	113	57,487	89·82		
	Siran ...	,, ...	Siran Range Reserves ...	...	33	...	134	20,986	32·80		
	Khanpur ...	,, ...	Khanpur Range Reserves ...	...	50	...	219	31,786	49·66		
			Total ...	...	236	703	466	1,51,282	236·38		
Rawalpindi.	Rawalpindi	Rawalpindi	Rawalpindi Reserves ...	...	55	343	23	35,520	55·50		
	Attock ...	,, ...	Attock Reserves ...	...	11	...	620	6,420	10·03		
	Fatehjang	,, ...	Fatehjang Reserves ...	...	24	...	378	14,982	23·41		
	Kahuta ...	,, ...	Kahuta Range Reserves ...	...	9	150	...	5,910	9·23		
			Total ...	...	99	493	1,021	62,832	98·17		
Chamba.	Pangi ...	Chamba ...	Pangi forests	...	66	...	4,240	38,000	59·38		
	Dalhousie...	,, ...	Kalatop ...	...	4	42	...	2,602	4·06		
	,, ...	,, ...	Kainthli ...	...	1	324	...	964	1·51		
	,, ...	,, ...	Bakloh ...	...	2	...	637	643	1·00		
	,, ...	,, ...	Banikhet ...	...	1	...	123	517	·81		
	Bhandal ...	,, ...	Bhandal forests ...	...		...	...	9,797	15·30		
	Tisa ...	,, ...	Tisa forests ...	...		...	7,101	23,834	37·24		
	Barmaur ...	,, ...	Barmaur forests ...	...	122	...	...	19,373	30·27		
	Chamba ...	,, ...	Chamba forests ...	...		...	...	17,975	28·09		
			Total ...	...	196	366	12,101	1,13,705	177·66		
Kangra.	Dera Range	Hoshiarpur	Dera Reserves	...	24	283	743	14,900	23·28		
	Beas River Range ...	Amritsar ...	Gariwal ...	...	1	...	195	445	0·70		
	,, ...	Hoshiarpur	Belas ...	...	1	...	55	585	0·91		
	Dera Range	Kangra ...	Dera Reserves	...	17	186	...	11,066	17·29		
	Nurpur Range ...	,, ...	Nurpur Reserves ...	...	16	...	838	9,402	14·69		
			Total ...	...	59	469	1,831	36,398	56·87		
Bashahr.	Neogli ...	Simla ...	...	...	23	...	...	14,720	23·00		
	Tranda ...	,, ...	...	...	31	...	...	19,840	31·00		
	Kilba ...	,, ...	Kilba Range Reserves ...	...	20	...	5,967	6,833	10·68		
	Kailas ...	,, ...	Kailas Range Reserves ...	...	40	...	...	25,600	40·00		
	Chini ...	,, ...	Chini Range Reserves ...	...	21	...	...	13,440	21·00		
	Pandrabis...	,, ...	Pandrabis Range Reserves ...	...	45	...	...	28,800	45·00		
			Total ...	...	180	...	5,967	1,09,233	170·68		
			Carried over ...	...	770	2,031	21,386	4,73,450	739·76		

Annual Form No 49.

FOREST DEPARTMENT, PUNJAB.

Area of Reserved Forests, 1885-86.—(concluded).

Division	Range	Civil District or Territory	Name of Forest, Unit or Working Circle	Area on 1st April 1885		Added during the year	Excluded or transferred to other heads	Area on 31st March 1886		No. and date of Notification of addition or transfer	Remarks
				Acres	Equivalent in square miles	Acres	Acres	Acres	Equivalent in square miles		
			Brought forward		770	2,031	21,386	4,73,450	739 76		
Jhelum	Jhelum	Jhelum	Jhelum Reserves		134		1,799	83,961	131 19		
	River	,,	Reserved Bolas		2	880		2,160	3 38		
	Talagong	,,	Talagong Reserves		42		2,209	24,671	38·55		
	Chakwal	,,	Chakwal Reserves		22	609		14,689	22 95		
	Pind Dadan Khan	,,	Pind Dadan Khan Reserves		107	7		68,487	107 01		
			Total		307	1,496	4,008	1,93,968	303 08		
Chenab	Chenab River	Gujrat	Gujrat Reserves		4	282	261	1,757	2 74		
		,,	Kuthala plantation					824	1 29		
	Pubbi	,,	Pubbi		39	225		25,185	39 35		
	Phalian	,,	Phalian Reserves		32	258	732	20,006	31 26		
	Gujranwala	Gujranwala	Gujranwala		2	386		576	90		
	Chenab River	,,	Thatta Faqrulla					1,090	1 70		
	Hafizabad	,,	Hafizabad Reserves			36,997		36,997	57 81	No. 1193 S., dated 3rd Sept 1885.	
			Total		77	38,148	993	86,435	135 05		
Lahore	Chunian Range	Lahore	Changa Manga		28	257		18,177	28 40		
	Lahore Range	,,	Shadora plantation		2		54	1,226	1 01		
	,,	,,	Carob plantation		1		268	23	0 04		
	,,	,,	Sadhanwali plantation					349	0 54		
	,,	,,	Jhoki		4	416		2,976	4 65		
	,,	Amritsar	Amritsar Reserves		3	403		2,323	3 63		
			Total		38	1,076	322	25,074	39 17		
Mooltan	Serai Sidhu	Mooltan	Serai Sidhu Reserves		53		307	33,613	52 52		
	Lodhran	,,	Lodhran Reserves		12	56		7,736	12 09		
	Mailsi	,,	Mailsi Reserves		45	118		28,918	45 18		
			Total		110	174	307	70,267	109 79		
Montgomery	Gugera	Montgomery	Gugera Reserves		87	55		22,510	35 17		
	Montgomery	,,	Montgomery Reserves					18,607	29 07		
	Chichawatni	,,	Chichawatni Reserves ...					14,618	22 84		
			Total		87	55		55,735	87·08		
Phillour	Phillour Range	Jullundur	Jullundur		1	735		51	0 07		
	,,	,,	Phillour					220	0 34		
	,,	,,	Sarangwal					1,104	1 72		
	Ludhiana	Ludhiana	Ludhiana		1		242	197	0 31		
	,,	Umballa	Jagadri					201	0 33		
			Total		2	735	242	1,773	2 77		
			GRAND TOTAL		1,391	43,715	27,258	9,06,702	1,416 70		
		TOTAL FOR 1884-85			1,398	9 S M	16 S. M.		1,391		

Annual Form No. 49.

FOREST DEPARTMENT, PUNJAB.

Area of Protected Forests, 1885-86.

Division.	Range.	Civil District or Territory.	Name of Forest, Unit or Working Circle.	Area on 1st April 1885. Acres.	Area on 1st April 1885. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1886. Acres.	Area on 31st March 1886. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks.
Rawalpindi.	Fatahjang Range	Rawalpindi	Kalachita	1,09,440	171	.	10,865	98,575	154·02		
			Total ...	1,09,440	171	...	10,865	98,575	154·02		
Chenab.	Hafizabad Range .	Gujranwala	Hafizabad Protected Forests	89,600	140	17,950	631	1,06,919	167 06	No. 11,928, dated 3rd September 1885.	
			Total ...	89,600	140	17,950	631	1,06,919	167·06		
			GRAND TOTAL ..	1,99,040	311	17,950	11,496	2,05,494	321·08		
			TOTAL FOR 1884-85 ...	...	311	...	..	...	311·		

Area of District Forests, 1885-86.

Division.	Range.	Civil District or Territory.	Name of Forest, Unit or Working Circle.	Area on 1st April 1885. Acres.	Area on 1st April 1885. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1886. Acres.	Area on 31st March 1886. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks.
Rawalpindi.	Kahuta Range ..	Rawalpindi	Kahuta Range Rakhs	..	374	..	1,26,384	55,032	85·98		
	Murree Range ..	,,	Murree Range Rakhs ...					57,944	90·54		
	Attock Range .	Peshawar	Jubba Jhil ...	...	1	...	60	580	0·91		
			Total ..	...	375	...	1,26,444	1,13,556	177·43		
Chamba.	River Range	Gurdaspur	Gurdaspur Rakhs ..	...	21	...	4,558	8,882	13·88		
			Total ...	...	21	...	4,558	8,882	13·88		
Kangra.	Dera Range	Kangra	Dera Rakhs ...	...	460	.	2,78,069	16,331	25·51		
		Hoshiarpur	Hoshiarpur Rakhs .	...	66	...	...	42,240	66·0		
			Total ...	...	526	...	2,78,069	58,571	91·51		
Kulu.	Upper Kulu Range .	Kangra ..	Upper Kulu Range Unreserves ...	...	..	71,322		71,322	111·44		
	Lower Kulu Range ...	,, ...	Lower Kulu Range Unreserves ..		..	25,542		25,542	39·91		
	Inner Seoraj Range ...	,, ...	Inner Seoraj Range Unreserves ...	...	...	69,958		69,958	109·31		
	Outer Seoraj Range .	,, ...	Outer Seoraj Range Unreserves ..	...	...	58 550		58,550	91·48		
	Waziri Rupi Range ..	,, ...	Waziri Rupi Range Unreserves ..	...	...	1,22,717	...	1,22,717	191·75		
			Total ...	...	...	3,48,089	..	3,48,089	543·89		
Bashahr.	Kilba Range	Simla ..	Kilba Range Unreserves..								
	Kailas ,,...	,, ...	Kailas Range Unreserves...								
	Chini ,,...	,, ...	Chini Range Unreserves...								
	Pandrabis Range ..	,, ...	Pandrabis Range Unreserves ...	...	34	...		21,760	34·00		
	Neogli Range	,, ..	Neogli Range Unreserves ..								
	Tranda ,, ...	,, ...	Tranda Range Unreserves ..								
			Total ...	...	34	...	...	21,760	34·00		
			Carried over ...	...	956	3,48,089	4,09,071	3,50,858	660·71		

Annual Form No. 49.

FOREST DEPARTMENT, PUNJAB.

Area of District Forests, 1885-86.—concluded.

Division	Range.	Civil District or Territory	Name of Forest, Unit or Working Circle.	Area on 1st April 1885		Added during the year	Excluded or transferred to other heads	Area on 31st March 1886.		No. and date of Notification of addition or transfer.	Remarks.
				Acres	Equivalent in square miles.	Acres.	Acres	Acres	Equivalent in square miles.		
			Brought forward		956	3,48,089	4,09,071	2,50,858	860 71		
Jhelum	River Range	Gujrat	Unreserved Belas		1		216	424	0 66		
	Khushab	Shahpur	Khushab Rakhs	..	211		216	1,34,824	210 66		
			Total	.	212	...	432	1,35,248	211 32		
Chenab.	Gujranwala Range .	Gujranwala	Gujranwala								
	Hafizabad Range	,,	Hafizabad Rakhs		96	.	55,727	300 2,832 2,581	0 47 4 43 4·03		
	Chenab River Range	,,	Belas								
	,, ,,	Gujrat	Belas .					5,095	7 96		
	,, ,,	,,	Kuthala plantation		8	5		30	0·05		
	Bhera Range	Shahpur	Bhera Rakhs		223	200		1,42,920	223 31		
	Jhang ,,	Jhang	Jhang Rakhs .		129		668	81,892	127 95		
	Chenab River	Sialkot	Belas			84	.	84	0 13		
			Total	.	456	289	56,395	2,35,734	368 33		
Lahore.	Chunian Range	Lahore	Chunian Rakhs	.	172		2,270	1,07,810	168 45		
	Lahore Range .	,,	Lahore Rakhs		33	7,206		28,326	44·26		
	Sharkpur Range .	,,	Sharkpur Rakhs	..	115	..	369	73,231	114 42		
			Total .	.	320	7,206	2,639	2,09,367	327·13		
Mooltan.	Lodhran Range .	Mooltan	Lodhran Unreserves ...		57		1,935	17,054 17,491	26 64 27 33		
	Mailsi ,,	,,	Mailsi ,,								
	Sanawan ,,	Muzaffargarh	Sanawan Rakhs								
	Muzaffargarh Range	,,	Muaffargarh Rakhs		89		8,199	11,086 10,284 27,391	17·32 16 07 42 80		
	Alipur ,, .	,,	Alipur Rakhs								
	Rajunpur ,,	Dera Ghazi Khan	Rajanpur Rakhs								
	D. G. Khan Range	,,	Dera Ghazi Khan Rakhs		29	440		16,000 3,000	25 00 4 69		
			Total .	.	175	440	10,134	1,02,306	159·85		
Montgomery.	Gugera Range	Montgomery	Gugera Rakhs								
	Montgomery Range	,,	Montgomery Rakhs .		771		5,676	2,18,467 87,120 1,82,177	341·36 136·12 284·65		
	Chichawatni Range	,,	Chichawatni Rakhs								
			Total . .	. .	771	..	5,676	4,87,764	762 13		
Phillour.	Phillour Range .	Jullundur...	Sarangwal .	.		200	..	200	0·31		
	Kalesar ,,	Umballa	Kalesar	...	18	309		11,829	18·48		
	Sabathu ,,	Simla	Sabathu	.		370	.	370	0·57		
	Dagshai ,,	,,	Dagshai .		..	400	.	400	0 63		
			Total .	...	18	1,279	..	12,799	19·99		
			GRAND TOTAL	. .	2,908	3,57,303	4,84,347	17,34,076	2,709·46		
		TOTAL FOR 1884-85		.	2,910	.	2 S. M	.	2,908		

Form No. 50.

Forest Department, Punjab.

Register of breaches of Forest Rules during 1885-86.

Forest Division and Civil District	Cases pending from 1884-85.	New cases of the year: Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences	Total new cases of the year.	Total cases.	Disposed of during the year: Convictions. Cases	Convictions. Persons	Acquittals. Cases.	Acquittals. Persons	Total. Cases	Total. Persons.	Cases pending at close of year.
Hazara Division														
Hazara District		3	64	41	1	109	109	96	211	13	91	109	302	.
Rawalpindi Division														
Rawalpindi District	16	4	41	1	12	58	74	49	119	13	32	62	151	12
Chamba Division														
Chamba State	8	2	16	.	6	24	32	25	35	3	5	28	40	4
Kangra Division														
Kangra District	2	3	74	11	7	95	97	85	162	12	19	97	181	
Hoshiarpur ,,		1	35		2	38	40*	38	136	2	4	40	140	
Amritsar ,, ...		...			1	1	1	1	1		.	1	1	
Jullundur ,,		..			1	1	1	1	1	..	.	1	1	
Lahore ,,					2	2	2	2	4			2	4	
Kulu Division														
Kangra District	18	54	76		58	188	206	128	1,015	55	1,473	183	2,488	23
Bashahr Division														
Simla District	51	14	7		7	28	79	6	15	8	8	14	23	65
Jhelum Division.														
Jhelum District ...	6	...	29	9	6	44	50	30	64	15	35	45	99	5
Shahpur ,,	6		27	5	4	36	42	33	79	8	26	41	105	1
Gujrat ,,			1			1	1	1	2		2	1	4	
Jhang ,,					1	1	1			1	1	1	1	
Rawalpindi ,,			2			2	2	1	4		...	1	4	1
Chenab Division														
Gujrat District	2		30	12	31	73	75	55	210	19	193	74	403	1
Gujranwala ,,	1		15	11	5	31	32	30	55	2	7	32	62	
Shahpur ,, ...	1		4			4	5	5	12		...	5	12	
Jhang ,,	.	.	1	...		1	1							1
Sialkot ,,	2						2	2	3			2	3	
Lahore District.														
Lahore District			18		9	27	27	24	69	3	29	27	98	
Amritsar ,,			2		5	7	7	4	13	3	17	7	30	
Mooltan Division.														
Mooltan District			1	61	5	67	67	52	73	15	34	67	107	..
Muzaffargarh ,,	5		6	6	1	13	18	10	26	4	9	14	35	
D G Khan ,,	2	3	3		2	8	10	7	9	1	1	8	10	2
Montgomery Division														
Montgomery District	41		182	52	5	239	280	110	211	26	109	136	320	144
Phillour Division														
Jullundur District			1		2	3	3	3	5		..	3	5	
Simla ,,	2		7	...	5	12	14	6	7	5	12	11	19	3
Umballa ,,					1	1	1			1	3	1	3	.
Grand Total	163	84	642	209	179	1,114	1,279	804	2541	209	2,110	1,013	4,651	262
For 1884-85	139	76	611	192	195	1,074	1,213	789	2,820	261	734	1,050	3,554	163

* Includes two pending cases omitted by Divisional Officer in Form for 1884-85

† Four cases held to be pending, 1st April, were withdrawn, and no further action taken

Form No. 51.

Forest Department, Punjab.

Area of Forest Tracts protected from Fire during the dry season of 1886

Division	Forest Tracts	Year in which protection commenced.	Area actually protected up to 15th June 1885.	During dry season of 1886			Cost during the season.	Remarks
				Area attempted to be protected.	Failures.	Actually protected.		
		Acres	Acres.	Acres	Acres	Acres.	Rs.	
Hazara	Batrasi	1885	1,252	1,252	67	1,185	110	
	Masar	"	7,892	7,892	145	7,747		
	Daddar	"	801	801	..	801		
	Baz Khan	"	1,053	1,053	563	490		
	Tanglai	"	5,444	5,444	3,575	1,869		
	Kotla	"	1,629	1,629	7	1,622	30	
	Ferozpur	"	365	365		365		
	Kuhmal	1886		185	..	185		
	Norata	1885	905	905		905		
	Sangreri	"	520	520	.	520		
	Milan Bhoto	"	2,950	2,950		2,950		
	Bahi	"	190	190	.	190		
	Khui	"	231	231	...	231		
	Triman	"	392	392	.	392		
	Chanali	"	391	391		391		
	Mori ...	"	682	682	50	632		
Rawalpindi	Murree—15 proposed reserves	1885		25,591	2	25,589	99	
	Do 15 do protected forests	"	40,197	8,449	.	8,449	37	
	Kahuta 21 do reserves	"		30,707	7	30,700	31	
	Do. 11 do protected forests	"	67,277	10,327	23	10,304	10	
	Kheri Murat	1886	.	13,775		13,775	17	
	Kheremar	"		2,261		2,261	17	
Chamba	Bakloh	1872	1,280	643		643	17	
	Kalatop	1871	2,870	2,870		2,870	7	
	Kainthli ...	1882	644			.	.	Protected without special measures.
	Shahpur Kandi	"	8,882	8,882		8,882	25	
	Surkigali	1885		306		306	15	
	Banikhet	1874	537	211		211		
Kangra	Lohara Jawar Lambaseil and part of Punjal .	1875	2,000	2,000		2,000	28	
	Dhamtal	1879	600	600	..	600	13	
	Talara and Kalak	1882	1,000	1,000		1,000	13	
	Tatal and Mehdar	"	1,600	1,600		1,600	15	
	Chitral and Jakar	"	1,700	1,700	.	1,700		
	Bindraban Reserve	1883	600	600		600		Pine needles cleared by guards
	Parts of Chabootra-Humal Dhar Jakh, Bakroh	1884	7,000	7,000		7,000	72	
	Khanpur and Bindraban	"	3,000	3,000	...	3,000	34	
	Mastgarh, Batvi and Swarka	1885	600	600	.	600	10	
	Hathi Dhar	"	1,500	1,500	.	1,500	13	
	Bagariam and Mullanwal	"	535	.				
Kulu	Sail Bail	"	85	85		85	8	
	Somal Chalaon	"	260	260		260		Produce given in return for grass clearance
Mooltan	Shujaitpur	"	1,010	1,010	5	1,005	10	
	Jalalpur	"	1,535	1,535		1,535	10	
	Other reserves	"	15,593	.				Protected without special measures
Montgomery	Kalera .	1884	4,561	4,561		4,561	8	
	Darsana	"	1,663	1,663		1,663	8	
	Other reserves	"	12,663		.			Protected without special measures.
Pakpatan	Kalessar	1882	3,000	3,000	500	2,500	244	
	Subathu and Jagadri	"	425					Protected without special measures
	Total		2,07,314	1,60,618	4,944	1,55,674	901	
	Total for 1884-85		42,980	2,07,370	56	2,07,314	1,065	

Annual Form No. 52.

Forest Department, Punjab.

Area of Plantations, 1885-86.

Division.	Name of Plantation.	Area in acres. On 1st April 1885.	Added during the year.	Excluded during the year.	Area on 31st March 1886.	Receipts. Of the year.	Charges. Of the year.	Remarks.
	Regular Plantations.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	
Kulu ..	Manali forest garden	5	.	...	5	...	25	
	Lee Garden	4		...	4	...	18	
Bashahr	Sholtu	6	...	..	6	...	1	
Jhelum .	Pira Ghaib	127	...	...	127	...	42	
Chenab	Belas Pindi Tatar and Nath.	173	...	...	173	226	...	
	Bela Sadhoki ..	1	..	...	1	8	..	
	Thatta Faqiralla .	393	...	...	393	558	.	
	Mohla ..	23	..	8*	15	22	5	*Reduced by erosion.
	Kotli Gohan	8		.	8	29	..	
Lahore ..	Changa Manga .	11,400	...	.	11,409	34,972	21,308	The removal of the produce from these plantations by Government agency cost Rs. 9,692, a sum not included under charges.
	Shadera *cum* Jugian	711	...		711	16,817	208	
	Jhoke and Sadhanwali	1,290	.		1,290	1,213	173	
	Nag ...	412	..		412	713	1,070	
	Mozang (Carob plot)	23	...	...	23	22	265	
Phillour ...	Jallundur .	51	.	..	51	100	.	
	Phillour .	220	.	.	220	430	131	
	Ludhiana .	197	.	...	197	300	...	
	Sabathu ..	200	...	...	200	993	391	
	Jagadri ...	200	...	...	200	1,303	...	
	Total	15,453	...	8	15,445	57,706	23,637	
	Cultural Operations.							
Hazara	Changlagali	44	..	..	44	..	...	
	Kajagali ...	16	.	...	16		...	
	Kaili ...	10	..	..	10			
	Mari ..	5	..	...	5	.	...	
	Malkandi ..	8	...	...	8	...	...	
	Karala ..	3	.	...	3	...	...	
	Makhanyal ..	2	.	...	2	...	...	
	Garamthan .	..	52		52	...	140	
	Tejwal .	..	3†		3	...	30	†Includes one acre erroneously printed Nurseries in last return.
	Nurseries		.	...	...	..	263	
Rawalpindi ...	Barakao	86	.	..	86	...	66	
	Goragali	.	..	...	...	..	11	
	Khairi Murat ..	30	...	...	30	...	.	
	Athal (Banigala)	13	...	...	13	...		
	Chili Chara ...	7	...	...	7	..		
	Patriata	.	2	...	2	..	13	
	Jabbi Jhil			...	.	624	100	
	Karang Naddi ..	..	6	...	6	.	5	
	Kuhetra and Bariar ...	..	9	...	9	.	9	
	Pind Gondal (Margalla)		9	...	9		...	
Chamba ..	Pangi—various .	22	..	...	22	..	.	
	Basan .	149	...	...	149	.	...	
	Dhauri .	25	...	...	25	...	..	
	Carried forward ...	420	81	..	501	624	637	

Annual Form No. 52.

Forest Department, Punjab.

Area of Plantations, 1885-86.—continued.

Division	Name of Plantation	Area in acres. On 1st April 1885	Added during the year.	Excluded during the year.	Area on 31st March 1886.	Receipts. Of the year	Charges. Of the year	Remarks
		Acres	Acres.	Acres.	Acres	Rs	Rs	
	Brought forward	420	81		501	624	637	
	Cultural Operations —*continued*							
Chamba	Bakloh	...		.		14	41	
	Kalatop	119	25		144	65	750	
	Kainthli	.	14		14		304	
	Majour	.	1		1		6	
	Cherri	2			2			
	Padri and Bohar	2			2		29	
	Gothan						214	
	Nurseries			.			16	
Kangra	Chitral	6		..	6	..		
	Tatal	32	15	.	47		29	
	Bindraban	11			11	..		
	Bhali	2	.		2			
	Dhamtal	7	4		11	...	16	
	Nahan	19			19			
	Jamoli	5			5			
	Balwal	5			5			
	Samlian	21			21		6	
	Tilli	3			3	.		
	Bajuri	6			6	..		
	Baldoa	7	..	...	7	..		
	Lohara	15	.		15	.		
	Badiana	25	...	.	25			
	Karupur	.	3		3		20	
	Chaliar	2			2			
	Aloh	1			1	.		
	Salaon	3			3	.		
	Mathei	6			6	.		
	Paranoh	1		.	1			
	Bhaler	2			2	.		
	Madoli	3	.		3		.	
	Arroh	1		.	1			
	Choar	1			1			
	Bakarar	1		1				
	Bagarian and Mullanwal	585			585		327	
	Gagriwal ...	5			5	.		Cost of clearing compartment lines.
	Hamirpur—various	84			84	.		
Kulu	Dungri	60	1	27	34	.	19	
	Manalghan	84		31	53		23	
	Danabial	30	1	4	27		22	Exclusions are due to correction of areas
	Sial Bial	85		22	63		28	
	Manalghar	41	4	4	41		47	
	Bai Padri	12			12*		15	
	Danideo	30	.		30*		19	* Areas still doubtful or incorrect
	Chasal, Upper	4	7		11		68	
	Do. Lower	4½	.	½	4	.	10	
	Shalingar	1½	3	½	4		40	
	Dudlu	58	10	20	48		68	
	Brunudhar	6½	11	½	17		101	
	Padi Chalaon	9	..	.	9		4	
	Batarbial	3	2	2	3		30	
	Deoban	12	8	8	12		58	
	Seani ...	3	.		3		1	
	Carried forward	1,845½	190	120½	1,915	703	2,948	

Annual Form No. 52.

Forest Department, Punjab.

Area of Plantations, 1885-86.—continued.

Division	Name of Plantation.	Area in acres. On 1st April 1885	Added during the year	Excluded during the year	Area on 31st March 1886	Receipts. Of the year 1885	Charges. Of the year 1885	Remarks
		Acres.	Acres.	Acres.	Acres	Rs	Rs	
	Brought forward	1,845½	190	120½	1,915	703	2,948	
	Cultural Operations —*continued*							
Kulu	Phetaban	1			1	...		
	Ledi Chalaon	2			2			
	Shopini	4			4	..	2	
	Sandhar	4	1	1	4	..	9	
	Bindraban (Sansi)	3	...		3	.		
	Do (Jerri)	24	5	5	24	.	49	
	Soma Chalaon	43	2		45	..	39	
	Kasole	½		½			2	
	Phulga	12	.		12*		3	
	Daogi	2			2		12	
	Latura	67			67*	.	5	
	Bajdhar	9			9*		7	
	Solano	7			7*	.	2	
	Bakriala	½		½			3	
	Ramgarh		1	.	1		15	
	Sila		4	.	4		15	
	Phone		5	.	5		17	
	Bagi		2		2		9	
	Separate nurseries						85	
Bashahr ...	Nachar, East	84	34		118	..	358	Rs 144 nurseries.
	Runang*	34	8	.	42		91	Rs. 69 nurseries.
	Sapni and Kumkumi	140	30		170	.	200	*Erroneously printed "Punang" in last year's report.
	Kunhi	2	.		2	. .		
	Kilba	4	1		5		149	Rs. 143 nurseries.
	Derkali and Kashapat	1			1		65	Nurseries.
	Tranda	3	2		5		33	Rs 14 nurseries.
	Guthrang	12			12		18	Nurseries.
	Nachar, West	1	2		3		29	Rs 16 nurseries.
	Tanglang	8		.	8			
	Ramni	.					20	Nurseries
	Jani	1			1		7	Ditto.
	Panwi	7			7		53	Rs 13 nurseries
	Jhangi			.			9	Nurseries.
Jhelum	Gandhala Rakh	13			13		249	
	Ban Faqirulla	2		.	2	.	47	
Chenab ...	Pubbi	453	108	..	561	284	1,173	
	Chichra	3			3	.	107	
	Kiktanwali	2			2	712*	89	* From the whole rakh.
	Chakgazi	5		..	5	404*	.	
	Tibbi Tarar	2		.	2		.	
	Gujranwala Rakha	3	. .	.	3		26	
	" Nursery	1	.	...	1		134	
	Wazirabad "	.					25	
	Jhikar Depôt	.	.	...		.	34	
Lahore ...	Kot Lakhpat		.	.		591	1,119	
	Carried forward	2,805	395	127	3,073	2,694	7,257	

Annual Form No. 52.

FOREST DEPARTMENT, PUNJAB.

Area of Plantations, 1885-86 concluded.

Division	Name of Plantation	Area in acres: On 1st April 1885	Added during the year	Excluded during the year	Area on 31st March 1886	Receipts	Charges	Remarks
						Of the year 1885		
	Brought forward	Acres 2 805	Acres 395	Acres 127	Acres 3,073	Rs 2,094	Rs 7,257	
	CULTURAL OPERATIONS —*concluded*							
MOOLTAN	Pakka Haji Majid	28		28				Failure
	Experiments						27	
MONTGOMERY	Okara Reserve	22			22			
	Montgomery Reserve						3	
	Montgomery Experiments				..		49	
	TOTAL	2,855	395	155	3,095	2,094	7,336	

Add cost of Regular Plantations		.. 23,637
DEDUCT		30,973
All Divisions Expenditure debited to AVIII (*f*)	1,241	
Chamba Division Expenditure erroneously debited to A VIII (*e*)	41	
Rawalpindi Division Expenditure erroneously debited to A VIII	100	1,382
ADD erroneously charged to A VIII (*d*)		29,591
Jhelum Division.—Salary of temporary Forester at Forest school	469	
Lahore Division— " " " " on protection Rakhs	20	489
Expenditure A VIII (*d*), as per Form 58		30,080

Form No. 53.

FOREST DEPARTMENT, PUNJAB.

Trees felled by Government Agency during 1885-86.

Division	Trees felled: Description	Number	Remarks
HAZARA	Deodar (Cedrus deodara)	566	
	Biar (Pinus excelsa)	36	
	Paludar (Abies webbiana)	46	
	Chir (Pinus longifolia)	2	
	Baraugi (Quercus dilatata)	3	
	Rhin (Quercus incana)	13	
	Total	666	
RAWALPINDI	Chil (Pinus longifolia)	25	
CHAMBA	Deodar	2,991	
	Tos	25	
	Rai	47	
	Oak	1	
	Chil	9	
	Total	3,073	
KULU	Deodar	553	
BASHAHR	Deodar, green	1,833	
	" dry	201	
	Blue pine, green (Pinus excelsa)	55	
	" dry	4	
	Boxwood	1,130	
	Total	3,223	
	GRAND TOTAL	7,540	
	ABSTRACT		
	Deodar (Cedrus deodara)	6,144	
	Boxwood (Buxus sempervirens)	1,130	
	Pinus excelsa (Biar or B pine)	95	
	Pinus longifolia (Chil or chir)	36	
	Abies webbiana (Paludar or Rai)	98	
	Abies Smithiana (Tos)	25	
	Oak	17	
	TOTAL	7,540	
	FOR 1884-85	4,617	

Annual Form No. 54.

FOREST DEPARTMENT, PUNJAB.

Outturn of Timber and Firewood during the year 1885-86.

Division.	Description of material.	Outturn in cubic feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by				
						Government Agency.	Purchasers	Free Grants.	Right-holders.	
		RESERVED FORESTS.								
Hazara	Deodar logs	1,13,880	...	...	1,13,880	1,13,880	...	...	...	2,847 logs @ 40 c. ft. per log.
	Deodar broad gauge sleepers	10,206	...	...	10,206	10,206	...	...	...	
	Biar Scantlings	1,713	...	...	1,713	1,713	...	...	...	
	Paludar ,,	1,985	...	...	1,985	1,985	...	...	...	
	Chir ,,	386	...	...	386	386	...	...	...	
	Other Scantling and Karries	197	...	...	197	25	172	...	...	
	Firewood	...	1,42,301	...	1,42,301	12,215	1,30,086	...	...	C. ft. stacked.
	Charcoal	13,527	...	...	13,527	13,527	...	...	...	Converted from mds. @ 10½ c. ft. per md.
	Biar Shingles	540	...	...	540	540	...	...	...	A shingle=·0065 c. ft.
	Paludar Shingles	2,160	...	...	2,160	2,160	...	...	...	
	Miscellaneous trees	8,375	...	...	8,375	...	8,375	...	...	
	Pasar handles	105	...	...	105	105	...	...	...	
Rawalpindi	Pine trees	1,24,830	...	...	1,24,830	2,500	1,22,330	...	...	
	Hard wood trees	3,050	...	...	3,050	...	3,050	...	...	
	Firewood	15,53,803	...	...	15,53,803	4,15,146	11,38,657	...	...	
	Poles (miscellaneous)	...	...	...	...	...	...	...	...	1,498 cut and removed by purchasers.
Chamba	Deodar logs	4,60,290	...	...	4,60,290	4,60,290	...	...	...	Converted @ 30 c. ft. per log.
	Other ,,	520	...	...	520	520	...	...	...	,, @ 20 c. ft. per log.
	Sleepers	1,35,873	...	...	1,35,873	1,35,873	...	...	...	,, @ 3 c. ft. per sleeper.
	Scantling	10,540	...	...	10,540	10,540	...	...	...	
	Deodar trees	17,440	...	...	17,440	...	...	...	17,440	Converted @ 160 c. ft. per tree.
	Pine trees	36,600	...	...	36,600	...	7,920	...	28,680	,, @ 120 c. ft. per tree.
	Slabs	...	...	...	...	...	...	...	...	127 slabs removed by purchasers.
	Firewood	2,904	...	...	2,904	...	2,904	...	...	
Kangra	Chil trees	18,900	...	...	18,900	...	18,900	...	...	Converted @ 30 c. ft. per tree.
	Miscellaneous trees	36,536	...	...	36,536	...	36,536	...	...	,, @ 8 c. ft. per tree.

Bashahr	Deodar logs	1,45,925	2,525	...	1,48,450	1,48,450	...	...	...	Converted @ 25 c. ft. per log.
	Blue pine logs	13,300	350	...	13,650	13,650	...	...	...	
	Deodar broad gauge sleepers	28,013	...	...	28,013	28,013	...	...	...	
	,, narrow gauge ,,	135	...	...	135	135	...	...	...	
	Boxwood	4,922	...	...	4,922	4,922	...	...	...	
	Deodar trees	13,580	...	...	13,580	...	...	13,580	...	The average per tree is 50 c. ft. for trees giving planks and 21 c. ft. for poles do.
	Other trees	1,20,250	...	...	1,20,250	...	...	1,20,250	...	
Jhelum	Miscellaneous trees	...	4,520	...	4,520	...	4,520	...	...	
	Firewood	...	23,285	...	23,285	...	23,285	...	...	Cubic feet stacked.
Chenab	Firewood	...	820	...	820	820	...	...	...	
Lahore	,,	...	11,02,853	1,54,017	12,56,870	10,59,854	1,97,016	...	...	Cubic feet stacked.
Mooltan	,,	...	15,86,404	...	15,86,404	96,340	14,90,064	...	...	,, ,,
Montgomery	,,	...	11,83,638	...	11,83,638	...	11,83,638	...	...	,, ,,
Phillour	,,	...	...	45,500	45,500	45,500	...	...	...	,, ,,
	Total	28,80,485	40,46,696	1,99,517	71,26,698	25,79,295	43,67,453	1,33,830	46,120	
	PROTECTED FORESTS.									
Rawalpindi	Pine trees	6,588	...	...	6,588	...	6,588	...	...	
	Firewood	84,429	...	...	84,429	29,953	54,476	...	...	17,818 mds. of this converted to c. ft. @ 4 c. ft. stacked = 1 md.
	Hard wood trees	20	...	...	20	...	20	...	...	
	Poles	...	...	...	...	...	...	...	...	42 removed by purchasers.
	Total	91,037	...	...	91,037	29,953	61,084	...	...	
	DISTRICT FORESTS.									
Rawalpindi	Firewood	1,08,844	...	...	1,08,844	...	1,08,844	...	...	37,400 mds. of this converted to c. ft. @ 4 c. ft. stacked = 1 md.
	Pines	...	...	...	...	...	...	...	...	2,069 trees free grants from undemarcated waste.
	Hard wood trees	20,460	...	...	20,460	...	20	20,440	...	Converted at 10 c. ft. per tree.
	Poles	...	...	...	...	...	...	...	...	52,289 free grants.
Chamba	Deodar trees	9,000	...	...	9,000	...	...	...	9,000	Trees converted @ 150 c. ft. per tree.
Kangra	Firewood	348	...	...	348	...	348	...	...	116 coolie loads @ 3 c. ft. stacked, each.
	Chils	3,25,140	...	...	3,25,140	...	2,19,360	60	1,05,720	Converted @ 30 c. ft. per tree.
	Miscellaneous trees	39,400	...	...	39,400	...	10,824	936	27,640	,, ,, 8 c. ft.
	Carried over	5,03,192	...	...	5,03,192	...	3,39,396	21,436	1,42,360	

Annual Form No. 54.

Forest Department, Punjab.

Outturn of Timber and Firewood during the year 1885-86.

Division.	Description of material.	Outturn in cubic feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by				
						Government agency.	Purchasers	Free Grants.	Right-holders.	
	Brought forward	5,03,192	...	...	5,03,192	...	3,39,396	21,436	1,42,360	
Kulu	Deodar logs	38,644	...	...	38,644	38,644	...	...	...	Broad gauge 13,074 @ 3½ c. ft. per sleeper.
	,, sleepers	46,583	...	...	46,583	46,583	...	...	...	Narrow ,, 412 @ 2 c. ft. ,,
	,, trees	19,480	...	...	19,480	...	2,720	16,760	...	Trees converted @ 40 c. ft. per tree.
	,, pieces	...	...	...	...	...	...	...	...	401 pieces removed by purchasers.
	Miscellaneous trees	64,970	...	...	64,970	...	980	63,990	...	Converted @ 10 c. ft. per tree.
	,, pieces	...	...	...	...	...	...	...	...	35 pieces removed by free grants.
										418 ,, ,, ,, purchasers.
	Firewood pieces	...	...	...	...	...	...	...	...	488 ,, ,, ,, ,,
Jhelum	Shisham trees	...	80	...	80	...	80	...	...	8 trees converted @ 10 c. ft. per tree.
Chenab	Firewood	...	2,39,724	...	2,39,724	1,52,700	87,024	...	...	Cubic feet stacked.
Lahore	Firewood	...	8,56,007	624	8,56,631	512	8,56,119	...	...	,, ,,
	Kikar trees	...	3,130	...	3,130	...	3,130	...	...	313 trees converted @ 10 c. ft. per tree.
Mooltan	Firewood	...	2,22,382	...	2,22,382	...	2,22,382	...	...	Cubic feet stacked.
Montgomery	Miscellaneous trees and rafters	...	1,401	...	1,401	...	1,401	...	...	
	Firewood	...	7,66,700	...	7,66,700	...	7,66,700	...	...	,, ,,
Phillour	Firewood	...	24,250	...	24,250	24,250	...	...	...	,, ,,
	Sal ballies	...	8,792	...	8,792	8,792	...	...	...	
	Miscellaneous firewood and pieces	...	14,589	...	14,589	567	14,022	...	...	
	Total	6,72,869	21,37,055	624	28,10,548	2,72,048	22,93,954	1,02,186	1,42,360	
	Grand Total	36,44,391	61,83,751	2,00,141	1,00,28,283	28,81,296	67,22,491	2,36,016	1,88,480	

Abstract for Reserved Forests.

Deodar logs	7,20,095	2,525		7,22,620	7,22,620			
Broad gauge sleepers	1,74,092			1,74,092	1,74,092			
Narrow gauge ,,	135			135	135			
Miscellaneous Scantling	14,821			14,821	14,649	172		
,, trees	3,79,561	4,520		3,84,081	2,500	2,01,631	1,33 830	46,120
Firewood	15,56,707	40,39,301	1,99,517	57,95,525	16,29,875	41 65,650		
Charcoal	13,527			13,527	13,527			
Shingles	2,700			2 700	2,700			
Paser handles	105			105	105			
Blue pine logs	13,300	350		13,650	13,650			
Boxwood ,,	4,922	...		4,922	4,922			
Other ,,	520	...		520	520			
Total	28,80,485	40,46,696	1,99,517	71,26,698	25,79,295	43,67,453	1,33,830	46,120

Abstract for Protected and District Forests.

Deodar logs	38,644			38,644	38,644			
,, sleepers	46,583			46,583	46,583			
,, trees	28,480			28,480		2,720	16,760	9,000
Pines	3 31,728			3,31,728		2,25,948	60	1,05,720
Miscellaneous trees	1,24,850	4,611		1,29,461		16,455	85,366	27,640
Firewood	1,93,621	21,09,063	624	23,03,308	2,07,415	20,95,893		
,, pieces		14,589		14, 89	567	14,022		
Ballies		8,792		8,792	8,792			
Total	7,63,906	21,87,055	624	29,01,585	3,02,001	23,55,038	1,02,186	1,42,360
GRAND TOTAL	36,44 391	61,83,751	2,00,141	1,00,28,283	28,81,296	67,22,491	2,36,016	1,88,480

Annual Form No. 55.

FOREST DEPARTMENT, PUNJAB.

Outturn of Minor Forest Produce, 1885-86.

Division.	Description of Produce.	Produce removed or utilized. By Government Agency. Quantity.	By Government Agency. Value	By Purchasers. Quantity.	By Purchasers. Value.	By free grants. Quantity	By free grants. Value	By right-holders. Quantity.	By right-holders. Value.	Total. Quantity.	Total. Value.
			Rs		Rs		Rs		Rs		Rs
	RESERVES										
Hazara	Grazing by leases (acres)			35,402	1,166					35,402	1,166
	" by permit (number of cattle)			1,167	141					1,167	141
	Grass cutting by lease (acres)			38,015	2 983		..			38,015	2,983
	" " by permits (loads) ...			32,654	1 527	..				32,654	1,527
	Grass-cutters by " "			355	472					355	472
	Total grazing and grass										6,289
	Chil bark (maunds)			188	94					188	94
	Tenli and Bhan leaves (loads)			432	108					432	108
	Kuth roots (maunds)			20	18					20	18
	Musk balla			40	20					40	20
	Pomegranate			8	2					8	2
	Lime			24	12					24	12
	Turpentine	1	6				..			1	6
	Total minor produce										260
Rawalpindi	Grazing (acres)			7,898	91					7,898	91
	Grass by permits (maunds) ...	21	9	11,961	763					11,982	772
	Total grazing and grass										863

RAWALPINDI	Bamboos			3,900	227					3,900	227
	Bahar grass rope (maunds)			883	94					883	94
	Pattaki branches ,,			1,987	20					1,987	20
	Vitex nagando branches (loads)			280	18					280	18
	Sanatha branches and poles ,,			829	94					829	94
	Stones and other minor produce				6						6
									Total minor produce		459
CHAMBA	Grass (fodder) loads			1,614	51				Total grass	1,614	51
	Deodar seedlings (No.)			440	27				Total minor produce	440	27
KANGRA	Grass cuttings (acres)			29,285	1,944					29,285	1,944
	Grazing ,,			1,734	168					1,734	168
									Total grazing and grass		2,112
	Bamboos	8,24,151	15,169					23,125	400	8,47,276	15,569
	Stone, c. ft.			1,932	6					1,932	6
	Other minor produce				21						21
									Total minor produce		15,596
JHELUM	Grazing by leases (acres)			1,78,094	6,650					1,78,094	6,650
	,, by permits (loads)			1,156	1,541	7,200	240			8,356	1,781
	Grass cutting (acres)			13,791	429					13,791	429
	,, ,, (loads)			9,530	263					9,530	263
									Total grazing and grass		9,123
	Stone (cubic feet)			29,500	74					29,500	74
	Bamboos			20	9					20	9
	Other minor produce				161						161
									Total minor produce		244
CHENAB	Grazing (acres)				14,231						14,231
	Grass (fodder) loads			9,642	786					9,642	786
									Total grazing and grass		15,017

Annual Form No. 55.

Forest Department, Punjab.

Outturn of Minor Forest Produce, 1885-86.—*continued.*

Division	Description of Produce.	Produce removed or utilized									
		By Government Agency.		*By Purchasers*		*By free grants.*		*By right-holders.*		*Total.*	
		Quantity	Value.	Quantity.	Value	Quantity.	Value	Quantity	Value.	Quantity.	Value
			Rs		Rs.		Rs.		Rs		Rs.
Chenab	Kahi and Panni (loads)			8,958	560					8,958	560
	Stone (cubic feet)			606	6	..				606	6
	Silo grass (loads)	48	6							48	6
								Total minor produce			572
Lahore	Grass (fodder) and grazing				4,416			Total grazing and grass			4,416
	Other minor produce				2,089			Total minor produce			2 089
Mooltan	Grazing (cattle)			11,496	1.944					11,496	1,944
	" (lease)				1.225						1,225
								Total grazing and grass			3,169
	Other minor produce				69			Total minor produce			69
Montgomery	Grazing and grass (acres)			37,626	1.994			Total grazing and grass		37,626	1,994
	Moonj Kana "			5,582	211		...			5,582	211
	Pani leaves "			200	26			..		200	26
								Total minor produce			237
Phillour	Grass cutting lease (acres)			669	950					669	950
	Grazing lease "			1.104	1,614					1,104	1,614
								Total grazing and grass			2,564

PROTECTED FORESTS.

Rawalpindi	Grazing by permits	(acres)	20,623	437				20,623	437		
	Grass (fodder)	(loads)	1,093	40				1,093	40		
	"	(acres)	906	24				906	24		
							Total grazing and grass		501		
	Tamarind leaves	(loads)	318	90				318	90		
	Sanatha branches	"	275	21				275	21		
	Bahekar "	"	325	8				325	8		
	Patti-ki "	"	3,437	34				3,437	34		
	Bahar grass rope	(maunds)	119	9				119	9		
	Sanatha poles	(No.)	2,450	18				2,450	18		
							Total minor produce		180		
Chenab	Grazing			9,053					9,053		
	Grass	(loads)	1,120	70				1,120	70		
							Total grazing and grass		9,123		

DISTRICT FORESTS.

Rawalpindi	Grass cutting	(acres)	580	624			Total grass and grazing	580	624		
Kangra	Grazing	(acres)	2,27,000	3,563				2,27,000	3,563		
	Bamboos		10,645	36			650	33 11,295	69		
Kulu	Grass	(loads)	810	392			Total grazing and grass	810	392		
	Slates	(No.)	1,485	15			Total minor produce	1,485	15		
Jhelum	Grazing	(acres)	1,35,247	4,128			Total grazing and grass	1,35,247	4,128		
	Mar	(loads)	204	51				204	51		
	Stone	(c. ft.)	1,200	4				1,200	4		
	Coal	(tons)	136	34				136	34		
							Total minor produce		89		
Chenab	Grazing			41,737					41,737		
	Grass	(loads)	1,768	115				1,768	115		
							Total grazing and grass		41,852		
Lahore	Grazing		2,07,395	22,403			Total grazing and grass		22,403		
	Moonj Kana and Malla patra	(acres)	40,805	2,358			Total minor produce		2,358		

Annual Form No. 55.

FOREST DEPARTMENT, PUNJAB.

Outturn of Minor Forest Produce, 1885-86.—concluded.

Division	Description of Produce	Produce removed or utilized: By Government Agency		By Purchasers		By free grants		By right holders		Total.	
		Quantity	Value	Quantity	Value	Quantity.	Value	Quantity	Value	Quantity.	Value
			Rs		Rs		Rs		Rs		Rs
	DISTRICT FORESTS—*continued.*										
Mooltan	Grazing (cattle)	.	.	4,909	554	.				4,909	554
	" (lease) . .				1,850						1,850
								Total grazing and grass			2,404
	Moonj Kana .		.		142						142
	Fishings . .				19						19
	Sajji and dates				12						12
								Total minor produce			173
Montgomery	Grazing by permits (acres)			4,87 764	17,459		.	Total grazing and grass		4,87,764	17,459
	Main				577			.			577
	Sajji .		.		177					...	177
	Kalar-shor . .	.			50						50
	Miscellaneous minor produce . .	.	.		12	.	.	.			12
		..	.								
						.		Total minor produce			816
Phillour ...	Grazing lease (acres) . ..		..	200	292		.			200	292
	" " (acres) ..	.		2,645	167					2,645	167
	Grazing permit (cattle) ...			279	134		..			279	134
	Grass cutting lease (acres)			225	913			.	.	225	913
								Total grazing and grass		..	1,506

Bhabar-Poola (maunds			1,728	164				1,728	164
Bamboos			14,280	112				14,280	112
							Total minor produce		246
Abstract for Reserved Forests.									
Grazing (acres)			2,76,028	31,555					
Do. (No. of cattle)			12,663	2,085					
Do. (permits)			1,156	1,541	7,200	240			
Grass cutting (acres)			81,760	6 306					
Grass (loads)			53,795	3,099					
Do. (maunds)	21	9	11,961	763					
Bamboos	8,24,151	15,169	3,920	236			23,125	400	
Other minor produce		12		3,737					
		15,190		49,322		240		400	65,152
Abstract for Protected Forests.									
Grazing (acres)			20,623	9,490					
Grass cutting (acres)			906	24					
Grass loads			2,213	110					
Other minor produce				180					
				9,804					9,804
Abstract for District Forests									
Grazing (acres)			10,57,406	89,322					
Grass cutting (acres)			805	1,537					
Grazing lease			2,845	2,309					
Grazing (cattle).			5,188	688					
Grass (loads)			2,578	507					
Bamboos			24,925	148			650	33	
Other minor produce				3,583					
				98,094				33	98,127
GRAND TOTAL		15,190		1,57,220		240		433	1,73,083

	Rs	A.	P
Phillour.—Add 2,863 Bamboos bought for rafting and resold	274	0	0
Rawalpindi —Add grass cutting —Outstanding 1884-85	63	0	0
Advance, 1886-87	180	0	0
	517	0	0

		517
Total		1,73,600
Deduct value shown in columns "free grants and right-holders"		673
Total of I c, I e and II c, II d, and II e, as per Form 58	Rs.	1,72,927

Annual Form No. 56.

FOREST DEPARTMENT, PUNJAB.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the Year 1885-86.

PARTICULARS	Number or quantity	Cubic feet	TOTAL OF EACH HEAD — Number or quantity	TOTAL OF EACH HEAD — Cubic feet
BALANCE IN HAND AT COMMENCEMENT OF THE YEAR				
Chamba Division				
Deodar scantlings	3,232	3,047		
Tos ,,	660	579		
Rai ,,	227	132		
B G sleepers	979	3,122		
			5,098	6,880
Kangra Division (Old Beas).				
Deodar logs	500	24,365		
Pine ,,	1	43		
Boxwood ,,	10	6		
B G sleepers	95	320		
N G ,,	1	1		
Other scantlings	122	258		
Waste wood	3	.		
Scraps and pieces	7			
Drift and waif wood	150	273		
			889	25,266
Bashahr Division				
Deodar logs	55	2,643		
,, scantlings	544	600		
			599	3,243
Jhelum Division				
Deodar logs	264	4,292		
Pine ,,	1,849	23,540		
Waste wood	1,412	1,382*		
			3,525	29,214
Chenab Division (old Gujranwala)				
Deodar logs	20	242		
Pine ,,	1	8		
Ash ,,	1	9		
B G sleepers	76	250		
Scraps and pieces	62	31		
			160	540
Phillour Division.				
Deodar logs	2,021	70,274		
N G sleepers	6,219	9,243		
Boxwood	24			
Scraps and pieces	643	..		
			8,907	79,517
Total Balance	.		19,178	1,44,660
Carried forward	..	.	19,178	1,44,660

PARTICULARS	Number or quantity	Cubic feet.	TOTAL OF EACH HEAD — Number or quantity	TOTAL OF EACH HEAD — Cubic feet
REMOVED BY PURCHASERS FROM DEPOTS				
Deodar logs	14,980	3,83,537		
Pine ,,	5 429	85,310		
B G sleepers	36,359	1,26,428		
N G ,,	4,361	5,938		
Deodar scantlings	1,934	2,195		
Pine ,,	32	20		
Other ,,	140	65		
Tos ,,	1,003	961		
Rai ,,	2,589	2,379		
Scraps and pieces	2,820	3,582		
Drift and waif ..	183	.		
Waste wood .	3,018	16,501		
Poles	870			
Boxwood	12	8		
			73,730	6,26,924
USED BY THE DEPARTMENT				
Deodar logs	9	625		
B G sleepers	7	24		
Pine ,,	5	20		
Deodar scantlings	616	657		
Pine ,,	226	243		
Tos ,,	203	200		
Rai ,,	98	90		
Scraps and pieces	150	402		
Drift and waif	6			
Waste wood	2	14		
			1,322	2,275
RETURNED TO OWNERS				
Drift and waif	4,922			
			4,922	
GIVEN TO CONTRACTORS				
Waste wood	489	2,909		
			489	2,909
TRANSFERRED TO OTHER DIVISIONS				
Deodar logs	310	4,440		
Pine ,,	301	4,057		
B G sleepers	81	269		
Scraps and pieces	62	31		
Waste wood	182	910		
Ash ,,	1	9		
			937	9,716
Carried forward			81,400	6,41,824

Annual Form No. 56.

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the Year 1885-86.—continued.

Particulars	No or quantity	Cubic feet	Total of each head. No or quantity	Total of each head. Cubic feet
Brought forward		...	19,178	1,44,660
Received from the Forest in Depots				
Deodar logs	13,172	3,15,163		
Pine ,,	3,896	66,349		
B G. sleepers	48,562	1,68,782		
N. G. ,,	8,028	14,362		
Pine ,,	5	20		
Deodar scantlings,	5,056	4,198		
Pine ,,	258	263		
Tos ,,	1,562	1,491		
Rai ,,	2,812	2,636		
Other ,,	152	91		
Drift and waif wood,	5,436			
Scraps and pieces,	2,775	4,512		
Waste wood	2,276	18,953		
Box ,,	3,000	2,000		
Poles	870	.		
Ash logs	1	9		
			97,861	5,08,829
Received by transfer from other Classes.				
Deodar logs	1	23		
N. G. sleepers	113	232		
Deodar scantlings,	561	1,947		
			675	2,202
Received by transfer from Sale Depots				
Deodar logs	1	80		
N. G. sleepers	6,162	9,243		
Boxwood	24	..		
Scraps and pieces	547	820		
			6,734	10,093
Received from the Forest and sold locally				
Deodar logs	170	3,418		
,, trees	68			
Pine ogs	63	1,381		
B. G sleepers	1,980	6,930		
Drift and waif	768	.		
Scraps and pieces	833	39		
Pine trees	128			
Tors and Ballies	2,194	..		
Biar scantlings	1,639	2,085		
Other ,,	1,914	1,186		
Salvadora posts	300			
			10,057	15,039
Carried forward			1,34,505	7,70,823

Particulars	No or quantity	Cubic feet.	Total of each head. No or quantity	Total of each head. Cubic feet
Brought forward			81,100	6,41,824
Transferred to other Depots.				
Deodar logs	56	2,673		
N G sleepers	6,162	9,243		
Scraps and pieces,	547	820		
Boxwood	24			
			6,789	12,736
Transferred to other Classes.				
B G sleepers	561	1,947		
Scraps and pieces	1	...		
Other scantlings	113	232		
			675	2,179
Lost by re-measurement				
Deodar logs	.	38		38
Sold locally.				
Deodar logs	170	3,418		
,, trees	68			
Pine logs	63	1,381		
B G sleepers	1,980	6,930		
Drift and waif	768	.		
Scraps and pieces	833	39		
Pine trees	128	.		
Tors and Ballies	2,194	..		
Biar scantlings	1,639	2,085		
Other ,,	1,914	1,186		
Salvadora posts	300	..		
			10,057	15,039
Used by Department locally.				
Biar scantlings	4	5		
Other ,,	349	495		
Tors and Ballies	28	...		
			381	500
Lost by re-measurement and recounting				
Biar scantlings	.	170		
Toss and Bullies	44			
			44	17
Carried forward	.		99,346	6,72,333

Annual Form No. 56

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the Year 1885-86.—continued

Particulars.	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
Brought forward			1,34,505	7,70,823
Received from the Forest locally and used by Department				
Biar scantlings	4	5		
Other "	349	495		
Tors and Bullies	28			
			381	500
Received from the Forest locally and lost by re measurement and recounting				
Biar scantlings		17		
Tors and Bullies	44			
			44	17
Grand Total			1,34,930	7,71,340
For 1884 85			1,06,571	7,97,063

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
Brought forward			99,316	6,72,338
Balance at close of the year				
Chamba Division				
Deodar logs	13	398		
Pine "	10	372		
B G sleepers	418	1,176		
Deodar scantling	6,435	6,470		
Tos "	1,016	909		
Rai "	352	298		
Other "	9	5		
			8,253	9,628
Kangra Division.				
Deodar logs	611	24,396		
Pine "	4	170		
Boxwood	10	6		
B G sleepers	12,280	[illegible],612		
N G "	7,791	14,587		
Other scantlings	12	47		
Scraps and pieces	76			
Drift and waif wood	475	273		
			21 259	82,071
Bashahr Division				
Deodar scantlings	408	470		
Boxwood	2,988	1,992		
			3,396	2,46
Jhelum Division				
Deodar logs	35	683		
Pine "	2	43		
Scraps and pieces	2	2		
			39	749
Mooltan Division				
Deodar logs	20	242		
Pine "	1	8		
B G sleepers	6	19		
Scraps and pieces	60	31		
Ash log	1	9		
			88	309
Phillour Division				
N G sleepers	2,200	3,314		
Scraps and pieces	316	474		
Boxwood	24			
			2,549	3,788
Grand Total			1,34,930	7,71,340
For 1884 85			1,06,571	7,97,063

ABSTRACT.

Balance at commencement of the year		19,178	1,44,660	Received by purchasers from depôts		73,730	6 26,924
Received from the forests in depôts during the year		97,861	5,98,829	Used by Department		1,322	2,275
Received by transfer from other classes		675	2,202	Returned to owner		4,922	
Received by transfer from sale depôts ..		6,734	10,093	Given to Contractors		489	2,909
Received from the forests and sold locally		10,057	15,039	Transferred to other Divisions		937	9,716
Received from the forest locally and used by Department		381	500	Transferred to other depôts		6,789	12,736
Received from the forests locally and lost by re-measurement and recounting		44	17	Transferred to other classes		675	2,179
				Lost by re measurement			38
				Sold locally		10,057	15,039
				Used by Deptt locally		381	500
				Lost by re-measurement and recounting		44	17
				Balance at close of the year		35,584	99,007
Total		1,34,930	7,71,340	Total		1,34,930	7,71,340
For 1884-85 ..	..	1,06,571	7,97,063	For 1884-85		1,06,571	7,97,036

Annual Form No 56.

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the Year 1885-86.—continued.

FIREWOOD AND CHARCOAL.

Particulars	No. or quantity.	Cubic feet	Total of each head. No. or quantity	Total of each head. Cubic feet
Balance in hand at commencement of the year.				
Rawalpindi Division				
Charcoal, mds.	1,236	*	1,236	
Lahore Division				
Firewood, c ft. .		1,73,400		1,73,400
Phillour Division.				
Firewood, pieces	47		47	
Received from the Forests in depots				
Firewood, pieces	215		215	
Do. c ft		10,60,424		10,60,424
Do. mds	2,969		2,969	
Charcoal. mds .	12,547		12,547	
Received from the Forest and sold locally.				
Firewood, pieces	74		74	
Do c. ft		4,62,971		4,62,971
Do mds	41		41	
Charcoal, mds	2,391		2,391	
Grass, mds	21		21	
Received from the Forest locally and used by Department				
Firewood, mds	62		62	
Charcoal, mds	5		5	
Total	19,608	16,96,795	19,608	16,96,795
For 1884-85 .	17,803	23,11,731	17,803	23,11,731

Particulars	No. or quantity	Cubic feet	Total of each head. No. or quantity.	Total of each head. Cubic feet
Removed by purchasers from depots				
Firewood, pieces	227		227	
Do. c ft		8,15,608		8,15,608
Do mds	2,969		2,969	
Charcoal, mds.	10,549		10,549	
Used by Department.				
Firewood, pieces	35		35	
Do c ft. ...		1,000		1,000
Lost by re measurement, &c				
Firewood, c ft.		10,214		10,214
Charcoal, mds.	1		1	. .
Sold locally.				
Firewood, pieces .	74		74	
Do. c ft.		4,62,971		4,62,971
Do. mds.	41	.	41	
Charcoal, mds.	2,391		2,391	.
Grass, mds	21		21	
Used locally.				
Firewood, mds	62		62	.
Charcoal ,	5		5	
Balance at close of year.				
Rawalpindi.				
Charcoal, mds	3,233		3,233	
Lahore Division.				
Firewood, c. ft		4,07,002		..
Total	19,608	16,96,795	19,608	16,96,795
For 1884-85 . .	17,803	23,11,731	17,803	23,11,73

* One maund omitted in last return.

Annual Form No. 56.

Forest Department, Punjab.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôt or sold locally during the Year 1885-86.—concluded.

BAMBOOS.

Particulars	No. or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet.
Balance in hand at commencement of the year				
Phillour Division				
Bamboos .	128	.	128	.
Kangra Division.				
Bamboos .	1,512	..	1,512	.
Received during the year				
Bamboos ..	8,61,384	.	8,61,384	
Received from Forests and sold locally				
Bamboos .	68		68	.
Received by transfer from sale depôts.				
Bamboos	714		714	
Total	8,63,806	.	8,63,806	
For 1884-85	6,30,668	.	6,30,668	

Particulars	No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Removed by purchasers				
Bamboos	8,58,863		8,58,863	.
Used by Department				
Bamboos	2,542		2,542	
Sold locally				
Bamboos	68		68	
Transferred to other sale depôts.				
Bamboos	714		714	
Balance at close of the year				
Kangra Division				
Bamboos	223		223	
Phillour Division				
Bamboos .	1,396	...	1,396	
Total	8,63,806		8,63,806	.
For 1884-85	6,30,668		6,30,668	

SHINGLES, &c.

Particulars	No. or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Balance in hand at commencement of the year	1,205		1,205	.
Received from the Forest				
Shingles ..	4,15,470	.	4,15,470	
Paser handles ...	930	.	930	
Turpentine, mds ...	1	..	1	.
Total .	4,17,606	..	4,17,606	.
For 1884-85 .	1,99,135	..	1,99,135	

Particulars	No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Sold locally.				
Shingles .	4,04,500		4,04,500	
Paser handles	930	.	930	
Turpentine, mds	1	.	1	
Used by Department				
Shingles	5,000		5,000	
Balance at close of the year				
Shingles	7,175	..	7,175	.
Total	4,17,606	...	4,17,606	
For 1884-85	1,99,135	...	1,99,135	

Annual Form No. 57.

FOREST DEPARTMENT, PUNJAB.

Abstract showing the value of Timber and other Produce at Sale Depôts for the Year 1885-86.

Description of timber and other produce	On hand at commencement of the year.			On hand at close of the year			Difference in value	
	No	Cubic feet	Value	No	Cubic feet	Value.	In favor of the year.	Against the year.
			Rs			Rs	Rs	Rs
Deodar timber ..	2,860	1,01,816	63,635	679	25,719	20,845		42,790
Pine " .	1,851	23,591	7,496	17	573	179		7,317
Fancy wood	35	15	8	.				8
Deodar scantlings	3,776	3,647	3,647	6,843	6,940	6,940	3,293	
Pine " and others				1,389	1,259	629	629	.
B G sleepers	1,150	3,692	2,875	12,704	43,807	38,112	35,237	
N G. "	6,220	9,244	9,330	10,000	17,901	12,500	3,170	.
Boxwood pieces .			.	3,022	1,998	9,098	9,098	
Other wood "	1,009	969	61	1	9	2		59
Scraps and pieces .	2,277	1,686	569	454	528	113		456
Drift and waif . ..	.		.	475	273	400	400	.
Total Timber	19,178	1,44,660	87,621	35,584	99,007	88,818	1,197	..
For 1884-85 .	36,476	2,36,156	1,40,242	19,178	1,44,660	87,621		52,621
Bamboos	1,640		148	1,619	.	76		72
Firewood, cubic feet	.	1,73,400	6,936	.	4,07,002	5,863	.	1,073
" pieces	47		3		.		.	3
Charcoal, maunds ...	1,235	.	1,235	3,233	...	3,082	1,847	
Total .	2,922	1,73,400	8,322	4,852	4,07,002	9,021	699	..
FOR 1884-85 .	8,015	3,43,481	16,227	2,922	1,73,400	8,322		7,905
GRAND TOTAL .		.	95,943	..		97,839	1,896	.
TOTAL FOR 1884-85 .	...	..	1,56,469	..	..	95,943		60,526

Annual Form No. 58.

Forest Department, Punjab.

Summary of Revenue of the different Divisions for 1885-86.

Budget Heads, Receipts.	Direction.	Bashahr Division.	Phillour Division.	Kulu Division.	Kangra Division.	Chamba Division.	Lahore Division.	Montgomery Division.	Mooltan Division.	Chenab Division.	Jhelum Division.	Rawalpindi Division.	Hazara Division.	Total.
	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P
I.—Timber and other produce removed from the Forests by Government agency:—														
a. Timber ...		1,016 12 4	1,30,694 5 5	-	51,691 1 11	1,09,546 13 1			247 10 0	5,615 13 6	58,808 3 8	288 5 11	5,537 10 6	3,63,351 12 4
b. Firewood and Charcoal ...			1,220 13 6			118 12 2	41,148 5 9		1,632 7 0	11,613 8 6	15 3 5	19,916 3 1	1,383 15 11	76,929 5 4
c. Bamboos ..			274 5 0		15,168 14 11									15,443 3 11
d. Sandal-wood ..										6 0 0		8 9 0	6 5 6	20 14 6
e. Grass and other minor produce ..														
II.—Timber and other produce removed from the Forests by consumers or purchasers:—														
a. Timber				541 13 3	18,204 8 11	329 5 0	1,921 6 0	371 1 3	86 2 6	7 8 0	802 14 3	10,209 13 10	1,009 4 0	33,183 11 0
b. Firewood and Charcoal ..			149 4 11	4 0 0	2 0 0	36 8 0	32,236 11 3	52,207 15 1	39,583 6 4	2,809 10 8	933 9 9	19,799 8 8	3,363 8 4	1,51,126 3 0
c. Bamboos			111 9 0		36 4 0						9 0 0	226 9 0		383 6 0
d. Grazing and Fodder Grass ..			4,203 9 6	391 10 1	5,675 4 5	51 1 0	26,850 11 11	19,453 4 1	5,572 11 6	65,992 2 0	13,010 14 6	2,221 13 6	6,298 14 9	1,49,712 0 9
e. Other minor produce ..			0 8 0	14 13 7	26 15 3	27 8 0	4,446 11 0	1,053 2 0	242 8 0	566 5 3	323 11 0	412 6 6	253 14 0	7,365 7 0
III.—Confiscated drift and waif wood			892 10 3	95 15 3	1,775 8 8	90 10 9			2 2 6	5,501 11 4	20,612 14 6	613 7 6		29,575 0 9
IV.—Revenue from Forests not managed by Government:—														
a. Duty on foreign timber and other forest produce ...					2,536 4 9								959 14 0	3,495 2 9
b. Revenue from shared and private forests ..														
V.—Miscellaneous:—														
a. Fines and forfeitures				0 4 0	139 14 0	2 0 0	800 0 0			153 8 3	10 8 0	73 8 0	824 5 2	2,003 15 5
b. Refunds	570 0 0		1 3 0			5 6 0	4 0 0	1 0 0		0 10 8		10 2 8	4 8 9	596 15 1
c. Other sources			1,054 11 9	440 8 0	3,915 4 2	3,175 4 10	656 7 9	828 9 10	917 3 0	2,204 10 3	2,510 2 5	1,381 3 10	144 8 3	17,228 10 1
TOTAL RECEIPTS	570 0 0	1,019 12 4	1,38,603 0 4	1,479 0 2	99,071 15 0	1,13,385 4 10	1,08,064 5 8	73,915 0 3	48,284 2 10	94,471 8 10	96,737 1 ..	55,161 11 6	19,655 13 2	8,50,418 11 11

Calcutta:

The 10*th June* 1886.

Jas. Taylor,

Asst. Comptroller-General (Forests).

Annual Form No. 58.

Forest Department, Punjab.

Summary of Expenditure of the different Divisions, 1885-86.

Budget Heads.	Division.	Bashahr Division.	Phillour Division.	Kulu Division.	Kangra Division.	Chamba Division.	Lahore Division.	Montgomery Division.	Mooltan Division.	Chenab Division.	Jhelum Division.	Rawalpindi Division.	Hazara Division.	Total.
A.—CONSERVANCY AND WORKS.	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P
I.—Timber and other produce removed from the Forests by Government agency:—														
a. Timber	...	30,803 6 3	9,013 13 9	10,561 13 4	9,330 7 8	1,12,934 1 11	...	...	...	683 15 8	6,145 5 3	208 4 7	14,234 6 11	1,93,863 11 5
b. Firewood and Charcoal	...	48 0 0	243 5 8	...	...	...	9,382 1 0	...	144 6 1	6,927 7 6	...	12,578 6 6	1,412 12 4	30,936 9 7
c. Bamboos ...	...	...	5 15 9	...	3,459 6 8	...	...	...	...	...	...	...	...	3,468 6 5
d. Sandal-wood	...	...	...	...	...	...	110 0 0	...	...	3 5 0	...	4 4 6	2 8 9	120 2 3
e. Grass and other minor produce	...	...	...	...	...	...	...	...	...	...	...	...	...	...
II.—Timber and other produce removed from the Forests by consumers or purchasers	...	...	...	...	0 2 0	406 6 0	12 6 10	63 6 3	77 8 7	114 9 11	...	908 4 9	216 1 5	1,722 7 9
III.—Confiscated, drift and waif wood	...	...	490 9 9	1 3 6	1,533 12 2	3 14 6	...	...	1 11 0	1,428 10 7	4,316 13 0	522 16 0	...	8,297 4 0
IV.—Revenue from Forests not managed by Government:—														
a. Duty on foreign timber and other forest produce...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased Forests and payments to Shareholders in Forests managed by Government	...	10,375 0 0	455 0 0	24 0 0	5,221 8 1	21,000 0 0	...	...	...	236 9 3	...	...	3,175 5 6	40,487 6 10
VI.—Live Stock, Stores, Tools and Plant:—														
a. Purchase of Cattle ...	...	727 0 0	...	...	...	...	...	...	...	...	...	...	...	727 0 0
b. Feed and keep of Cattle	...	57 4 9	51 5 9	...	...	...	195 8 9	...	...	113 13 0	...	...	...	418 0 3
c. Stores, Tools and Plant	584 14 6	801 9 0	6 2 6	26 0 0	102 9 9	842 0 0	7,821 10 1	43 5 6	79 2 0	77 12 0	31 6 6	464 9 2	291 11 6	11,174 14 6
VII.—Communications and Buildings:—														
a. Roads and Bridges ...	...	2,260 0 0	1 10 6	28 0 0	44 0 9	422 2 6	3 0 0	312 0	...	3 1 6	2 8 0	66 12 3	377 6 6	3,217 5 6
b. Buildings	17 13 6	1,317 2 8	85 13 9	282 15 4	453 12 9	798 15 7	122 15 0	4 8 0	66 6 6	174 5 0	118 4 3	255 6 1	241 2 2	4,441 7 7
c. Other works	...	19 1 0	...	...	...	...	...	...	...	...	...	...	...	19 1 0

| | | |

Annual Form No. 59.

FOREST DEPARTMENT, PUNJAB.

Account Current for the Year 1885-86.

Dr.

		Rs	A.	P.	Rs.	A.	P
To Cash Balance on 1st April 1885					5,470	5	5
„ *Revenue as per Annual Summary (Form No. 58)*					8,50,418	11	11
„ *Service Funds*—							
Civil Fund, Ordinary (Bengal)		460	0	0			
Do. Additional (do.)		503	8	9			
Military Fund (Madras)		1,492	5	0			
Uncovenanted Service Family Pension Fund		2,189	15	0	4,645	12	9
„ *Deposits*					4,662	12	0
„ *Forest Cash Remittances (Local)*—							
Forest Cheques drawn		6,25,537	3	2			
Inter-Divisional Transfers		2,574	13	7	6,28,112	0	9
„ *Advances Recoverable*					3,83,521	10	3
„ *Suspense*					205	4	9
Account Current (other Governments)—							
Government of India		8,387	7	1			
Do. North-Western Provinces and Oudh		13,288	12	11	21,676	4	0
„ *Inter-Departmental Transfers*—							
Public Works Department, State Railways—							
Punjab Northern State Railway ...		7	8	10			
Public Works Department, other Branches		15,949	1	2			
Military Department, Bengal		31	2	0			
Civil Department—							
Jails	111 10 9						
Mathematical Instrument Deptt	272 11 0						
Law and Justice	53 6 0						
		397	11	9	16,385	7	9
TOTAL					19,15,098	5	7

Cr.

		Rs	A.	P	Rs	A	P
By Expenditure as per Annual Summary (Form No 58)					6,75,482	13	2
„ *Deposits*					2,941	8	0
„ *Forest Cash Remittances (Local)*—							
Remittances to Treasuries		6,92,167	0	0			
Inter-Divisional Transfers		2,574	13	7	6,94,741	13	7
„ *Advances Recoverable*					3,65,190	13	6
„ *Suspense*					2	2	1
„ *Account Current (other Governments)*—							
Government of India		1,834	6	8			
Do. Bombay		29	13	6			
Do. North-Western Provinces and Oudh		210	0	0	2,074	4	2
„ *Inter-Departmental, Transfers*—							
Public Works Department, State Railways—							
Punjab Northern State Railway		25,854	0	0			
North-Western State Railway		1,09,165	14	2			
Bolan State Railway		22,237	11	0			
Other Branches		10,279	7	5			
Military Deparment, Bengal		1,580	3	9			
Civil Department—							
Jails	28 14 0						
Law and Justice	53 6 0						
Miscellaneous	1,080 10 3						
		1,162	14	3			
Telegraph Department		656	4	0	1,70,936	7	2
Cash Balance on 31st March 1886					3,728	7	11
TOTAL					19,15,098	5	7

CALCUTTA,

The 10th June 1886.

JAS. TAYLOR,

Asst. Comptroller-General (Forests.)

Annual Form No. 60.—[*Prescribed.*]

FOREST DEPARTMENT, PUNJAB.

Revenue received and Outstandings on account of Revenue during 1885-86.

Division	Particulars	Outstandings at commencement of year			Value of sales and other revenue during year			TOTAL			Amount realised during year			Balance due to the Department at end of year		
		Rs	A	P	Rs	A	P	Rs	A	P	Rs	A	P	Rs	A	P
Direction					570	0	0	570	0	0	570	0	0			
Hazara		6	0	0	19,669	13	2	19,675	13	2	19,655	13	2	20	0	0
Rawalpindi		427	15	10	55,558	11	6	55,986	11	4	55,161	11	6	824	15	10
Chamba		2,508	0	0	1,13,305	4	10	1 15 893	4	10	1,13,385	4	10	2,508	0	0
Kangra		1,439	2	0	99,689	4	4	1,01,128	6	4	99,071	15	0	2,056	7	4
Kulu		..			1,479	0	2	1,479	0	2	1,479	0	2			
Bashahr		809	10	11	325	9	0	1,135	3	11	1,019	12	4	115	7	7
Jhelum		320	10	9	96,825	6	0	97,146	0	9	(a) 97,047	11	9	98	5	0
Chenab		7,498	7	11	1,15 769	2	3	1.23 267	10	2	(b) 94,708	10	6	28,558	15	8
Lahore		1,374	4	0	1,09,891	6	9	1,11.265	10	9	(c) 1,08,366	12	5	2,898	14	4
Mooltan					48,284	2	10	48,284	2	10	48,284	2	10		.	.
Montgomery		4,740	14	9	87,941	5	11	92,682	4	8	(d) 73,923	12	3	18,758	8	5
Phillour			.		1 38,603	10	4	1,38,603	10	4	1,38,603	10	4	0	10	0
TOTAL		19,125	2	2	8,87,092	13	1	9 07,117	15	3	(e) 8,51,277	11	1	55,840	4	2
FOR 1884-85		14,062	10	6	7,59,692	12	10	7,73,755	7	4	7 54,630	5	2	19,125	2	2

REMARKS

(a) Rs 114-6 9 struck off under Commissioner's No 2352, dated 5th June 1885 as irrecoverable
Rs 10 0 0 Do No 2438, dated 10th June 1886 Do
Rs 49 0 0 Do, No 1197, 3355 & *Nil*, dated 21st March 1885, 10th August 1885, & 30th November 1885
Rs 137-4-0 Conservator's No 830, dated 19th July 1885

Rs 310-10 9 on account of cancelled sales
(b) Rs 93 14 5 written off Punjab Government No 215, dated 28th April 1885
Rs 31-8 3 Do Commissioner, Rawalpindi, No 1580, dated 17th April 1885
Rs 86-10 6 Do No 1105, dated 19th March 1886
Rs 25-0 6 Do., No 799, dated 2nd March 1886

Rs 237-1-8
(c) Rs 302 6 9 struck off as irrecoverable, *vide* Commissioner's No 196, dated 26th March 1886
(d) Rs 8-12 0 remitted

Rs 858-15 2
(e) Revenue as per form No 33 Rs 8,50,418-11 11
Amount written off under sanction Rs 858-15 2

Rs 8,51,277-11-1

Annual Form No. 61.

FOREST DEPARTMENT, PUNJAB.

Outstandings and Liabilities on account of Contractors and Disbursers for 1885-86

DIVISION.	DEPARTMENT DEBTOR									DEPARTMENT CREDITOR									BALANCE DUE					
	At commencement of year.			Recoveries in cash and value of supplies and work done during the year.			At close of year			At commencement of year.			Payments made during year			At close of year			To Department (Outstandings)			By Department (Liabilities)		
Direction				8,851	7	1	8,851	7	1	331	8	3	9,247	2	4	9,578	10	7	737	3	6			
Bashahr				21,500	0	3	21,500	0	3	5,131	10	7	25,993	9	10	31,125	4	5	9,625	4	3			
Phillour				11,397	7	7	11,397	7	7	797	4	0	11,662	14	2	12,060	1	2	662	9	7			
Kulu				23,164	12	8	23,164	12	8	510	8	6	22,983	3	1	2,34,931	11	7	328	14	11			
Kangra				46,838	13	5	46,838	13	5	3,816	12	9	43,621	10	11	47,438	7	8	600	2	3		8	
Chamba				1,35,568	1	3	1,35,568	1	3	41,237	12	0	1,15,635	9	4	1,56,873	5	4	21,305	4	1			
Lahore				35,678	3	2	35,678	3	2	101	5	5	36,111	8	9	36,212	14	2	534	11	0			
Montgomery				4,038	11	8	4 038	11	8	71	6	10	4,000	7	4	4,071	14	2	33	2	6			
Mooltan				7,232	9	4	7,232	9	4	176	5	11	7,212	3	4	7,388	9	3	155	15	11			
Chenab				8,922	5	0	8,922	5	0	558	5	1	8,754	9	10	9,312	14	11	390	9	11			
Jhelum				34,313	8	4	34,313	8	4	565	14	5	33,914	15	9	34,480	14	2	167	5	10	.		
Rawalpindi				20,338	15	10	20,338	15	10	90	9	10	20 577	12	3	20,668	6	1	329	6	3			
Hazara				25,676	10	8	25,676	10	8	444	6	10	25,475	3	7	25,919	10	5	242	15	9			
TOTAL				3,83,521	10	3	3,83,521	10	3	53,433	14	5	3,65,190	13	6	4,18,624	11	11	35,103	9	8		8	

JAS. TAYLOR,

Asst. Comptroller General (Forests).

Annual Form No. 62.

Forest Department, Punjab.

Financial results of the Year 1885-86.

Division	Timber and other produce removed from the forests by Government agency		Other Revenue		Formation, protection and improvement of forests.	Total.		Remarks.
	Receipts.	Charges	Receipts	Charges	Charges	Receipts.	Charges	
	Rs	Rs	Rs	Rs	Rs.	Rs	Rs	
Hazara	6,808	27,480	12,848	8,858	10,175	19,656	46,513	
Rawalpindi	20,827	20,510	34,335	8,051	9,710	55,162	38,271	
Chamba	1,09,758	1,44,693	3,627	11,449	14,768	1,13,385	1,70,910	
Kangra	68,536	29,256	30,536	9,856	31,794	99,072	70,906	
Kulu	86	17,136	1,393	6 613	7,943	1,479	31,692	
Bashahr	1,020	50,271		9,487	14,192	1,020	73,950	
Jhelum	79,436	19,080	17,301	8,624	12,479	96,737	40,183	
Chenab	22,737	17,160	71,735	8,159	11,522	94,472	36,841	
Lahore	41,148	22,668	66,916	12,359	35,275	1,08,064	70,302	
Mooltan	1,882	5,491	46,402	5,425	6,264	48,284	17,180	
Montgomery	.	3,262	73,915	3,362	4,037	73,915	10,661	
Phillour	1,33,082	15,246	5,521	5,076	6,203	1,38,603	26,525	
Total	4,85,320	3,72,253	3,64,529	97,319	1,64,362	8,49,849	6,33,934	
Direction ...	.	13,738	570	13,906	13,905	570	41,549	
Total .	4,85,320	3,85,991	3,65,099	1,11,225	1,78,267	8,50,419	6,75,483	
For 1884-85	3,65,047	2,62,461	3,84,305	1,12,322	1,83,287	7,49,352	5,58,070	

H. C. HILL,

Offg. Conservator of Forests.

APPENDIX I.

REPORT ON BAKANI SLIDE.

1. The object of this slide is the extraction of deodar timber in the log from the Bohar Padri forests, which is situated on the Bakani Nala about 13 to 15 miles above the town of Chamba.

2. Owing to the fact that the Bakani Nala, a mere torrent, with a very rocky bed, is not capable of floating logs into the Ravi, which it joins about 3 miles from the forests, no fellings have previously been made here; and, except for a few trees cut for local consumption by the State and villagers, these are practically virgin forests.

3. The area of the forests is as follows :—

Padri	...	...	742 acres.
Bohar	...	...	1,000 „

extending from 6,000 to 8,500 feet elevation above sea level.

4. Deodar forms about one-sixth of the standing crop, and is very unequally distributed; at its upper limit, scattered singly among the firs; in the middle, forming a dense pure forest; and at its lower limit, occurring only in clumps among the broad-leaved trees.

5. The rock is clay slate in parts, but chiefly large grained granite The surface soil is generally deep and good, consisting of light clay and disintregated granite with plenty of leaf mold, large granite boulders are deposited about the forest; and in places bare shelving faces of rock occur, from which, considering that the slope varies between 30 and 50 degrees, the extraction of timber without injury is very difficult and costly.

6. From an enumeration of the trees made before the work was put in hand, it was found that there were 1,192 in Padri and 2,805 in Bohar over 6 feet in girth; the greatest girth was 21 feet and the average about 10 feet. The trees are magnificent specimens of their kind, and contain on an average about 200 cubic feet each. This gives the capability of the two forests as about 800,000 cubic feet, besides which it is estimated that there are about 100,000 cubic feet obtainable from windfalls. As it is intended to plant up the area cut over, for which purpose 17 nurseries have been made in different parts of the forests; it is proposed to fell 3,162 trees in the two forests. These are estimated to give a total of 569,000 cubic feet.

7. The method of bringing the timber out of the forest to the Bakani Nala is the same as pursued elsewhere on the Ravi. The beds of the ravines in the forest are freed of large rocks and other obstructions, or, if the bed be too rocky or too narrow, the trees along a strip about 30 feet wide, down the face of the hill, are felled and placed lengthwise on either side; at certain intervals, depending on the slope of the hill, terraces are built out and covered with mud or brushwood. The trees are felled and cut up into logs.

8. The logs are rolled into the bed of the ravine towards which the hill side slopes, or into the nearest slide as above described; then rolled down from terrace to terrace, and finally dropped into the stream, where they lie till carried down in flood to the river.

9. As mentioned before, the Bakani stream is not large enough to carry down logs even when in flood, and, therefore, in order to utilise the large supply in these forests, the Bakani slide was designed.

10. The head of the slide was fixed at the point where the bed of the furthest ravine, down which logs are brought, joins the stream. Its total length is 12,300 feet, with a vertical fall of 1,650 feet, giving an average gradient of 1 in $7\frac{1}{2}$.

11. Of course, the one gradient has not been maintained throughout; in order to keep the cost of construction as low as possible, the alignment has been adapted to the configuration of the ground, with due regard to the necessity for keeping the gradient within certain limits.

12. The slide runs along the left bank of the stream for a distance of about 8,000 feet, and then, in order to avoid difficult ground and a large landslip, crosses over to the right bank and runs along it the remainder of its course. It was at first intended to keep it all the way along the right bank so as to keep the gradient as close as possible to the average gradient; but as the cost of this route would have been very much greater than the one now adopted, and there is no appreciable difference in the gradient, it was finally abandoned.

13. The general design is a "way" for the logs in the form of a channel contrived by placing logs side by side, four to six in cross section. The logs forming the channel are injured in no way, being merely placed in position and supported by a boulder-ballast; and when the supply from the forest is exhausted, they will be taken up and brought down to the river Ravi.

The channel can take logs up to 6′ diameter or 18′ girth; but if thicker than this, they must be cut into beams, or they will stick at some of the curves.

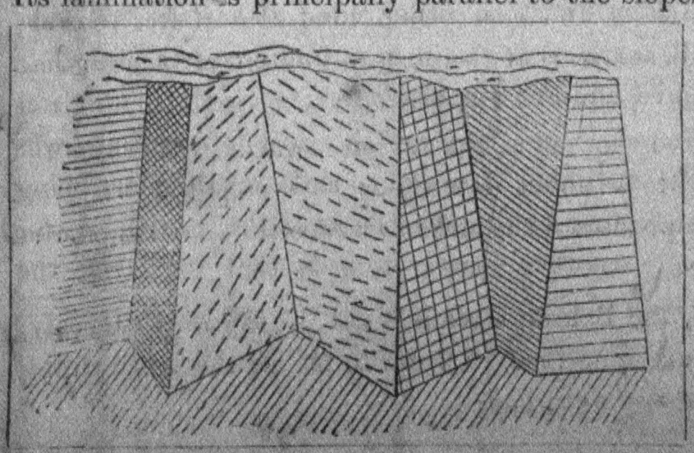
14. Where the slide runs in embankment, it was not found necessary that the embankment should be continuous, the log-way is supported on piers. When the piers are over six feet in height, they are built in the following manner :—

Two logs, about 8 feet long, of some inferior species are placed about 10 feet apart, their lengths longitudinally; crosswise on these are placed two logs about 12 feet long, notches in their ends fitting into corresponding notches in the others; then two more on these longitudinally, and so on till the required height is reached.

At the same time, to give solidity to the structure, boulders and large stones were thrown into the middle space and placed beneath the logs.

15. The only works of any importance are the crossing of a cliff about one mile below the head of the slide and the bridge over the Bakani Nala.

The cliff is of shale, and consists of several faces of rock, sloping at angles of from 15 to 50 degrees, and inclined to each other at various angles. Its lamination is principally parallel to the slopes.



A reference to the sketch in the margin, which represents a horizontal section at middle height, will give a better idea of the cliff.

It was crossed partly by cutting a way out of the rock along the face and partly by cutting away projections, and bridging the intervening spaces, a foundation being blasted out for the post of the pier on each side. The work turned out far heavier than was expected, the rock thought to be soft being in reality extremely hard, and requiring an enormous number of blasts to clear a way for the logs.

16. In selecting the position for the bridge, it was necessary to cross the stream above the landslip, (which would always be a menace to the slide) at a point where the stream is narrow, and the soil on either side affords secure foundations.

Plates are being prepared by Mr Copeland

As will be seen from the longitudinal section of the slide (Plate I), the approach to the bridge is at a gradient of 1 in 6. When the slide was originally designed, it was supposed that the logs would have to be pulled down to the river, and for that purpose tow-paths on either side of the log channel were provided. On the same supposition the crossing of the stream was made by a level bridge on a roller principle; but when 1,000 feet of the log-way had been completed, some thirty logs were sent down as an experiment, and it was found that the logs, once started, travel of their own accord down a wet incline of 1 in 7½, increasing or decreasing in speed according to the degree of wetness of the slide.

This knowledge attained, it became necessary to alter the design of the bridge. It is evident that decreasing the gradient will decrease the speed of the log; and decrease in speed can only arise from increased resistance offered by the log-way; it was therefore decided to continue the log channel at the same gradient as the approach. The log-way is supported on simple tresses. For information regarding the design and measurements the drawing may be consulted.

17. The work was made up of two great classes, *viz.* excavation and pier-walling. The former was of four kinds :—

I. Earth-work simply.
* II. Stony soil, requiring the pickaxe.
III. Rocky, requiring pick and some blasting.
IV. Rock, requiring to be blasted entirely.

18. The work was commenced during May 1883, and was expected to be completed before the floods of 1885; but owing to various causes, such as bad weather, unexpected difficulties and landslips during the winter, the work ran on until the 31st October, when the last log was laid, the first log being launched into the Ravi on the 2nd November 1885.

19. The original estimate of the cost was a total sum of Rs. 16,650; but it was found, as the work proceeded, that the cost and extent of blasting had been much under-estimated; many places that appeared to be earth turning out solid rock a few feet below the surface; and further, the cost of walling was much too low, the quantity of inferior timber required to make up the piers being much greater than was expected; and as it had to be brought from a greater distance, the cost was much more. Another heavy item is that for fixing the

* No skilled labor being procurable, it was necessary that all designs for special works should be of the simplest

logs in the log-way, which was not entered in the estimate, it being the idea to treat it as part of the cost of launching the logs. On further consideration this appeared incorrect, and it has, therefore, been properly debited to first cost of the slide.

20. The figures are as follows: actuals being compared as nearly as possible with the estimate :—

	Estimate.	Actual cost.	More	Less.	Remarks.
	Rs	Rs	Rs.	Rs	
I, II, and Part III earth-work	3,490	2,562	..	968	
Part III and IV blasting, half cost of dynamite	6,723	9,054 200	2,531		
Walling					
Embankment	4,810	10,388	5,578	...	
Bridge	500	1,257	757	...	
Water Channel	300	...	..	300	Not made.
Extra Works					
Fixing logs in slide	.	5,508	5,508	...	
Making "fenders" to prevent damage to logs in transit	..	279	279	...	
"Danger" Signallers	...	184	184	...	
Contingencies, including "bunds" to keep flood water off slide, temporary bridges, tools, huts for coolies, &c., gunpowder and iron for such works	827	1,827	1,000	...	
Total	16,650	31,259	15,837	1,228	
Excess	14,609	...	1,228	...	
Total expenditure	31,259	...	14,609		

21. As regards probable revenue to be derived from the work, the following estimate is made; it can, however, be only a very rough one, as there are so many contingencies to be expected, such as losses in transit, non-occurrence of floods in the Ravi, damage to slide from landslips, &c.

Dr	Rs.
First cost of slide	31,259
Repairs during three years	5,000
Auxiliary slides in forest to bring logs to principal slide	20,000
Cost of bringing timber to head of slide, 569,000 cft., at Re. 0-1-3	44,453
Cost of taking logs down slide to river, 569,000 cft., at Re. 0-1-3	35,562
Cost of transporting to, and landing at Shahdara depôt 512,100 cft., at Rs. 0-2-9 per cft., allowing for a loss of 10 % in transit . . .	88,017
Contingencies, say	1,709
Total	2,26,000
By sale of 512,100 cft. of timber at Shahdara depôt, at 12 annas per cubic foot ...	3,84,075
Estimated net profit	1,58,075

22. The selling rate is only taken at 12 annas to allow for a certain proportion of the logs being second class on arrival at depôt, and thus only fetching perhaps 6 annas. This should be well within the mark, as a great many logs will be 20 feet long and over, the depôt rate for which is Re. 1-4-0 per cubic foot

increasing by 2 annas for every foot length over 22 long. Of the logs already fixed in the slide, that is half way to the river, the average length is 15 feet, the selling rate for which is 15 annas; this, however, is much smaller than it will be in the future, owing to the fact that a great number of small logs were required for fitting into the curves in the log-way. It is probable that the average hereafter will be more than 20 feet, as the intention is to cut the logs as long as possible, compatible with facility in launching and transit down the river.

23. The largest log sent down the slide as yet was 48 feet long; it passed down a distance of 2,500 feet at the rate of over 20 miles an hour. The largest log in point of cubic contents was 27 feet long, with a mean girth of 14′ 9″ containing 367 cubic feet. The number of deodar logs used in the log-way was 3,999, or about one log for every three running feet of the roadway.

GENERAL.

24. The labor employed was for the most part imported from Badrawar in Cashmir; the Chamba villagers were either too lazy or too well off to care to work on it. The rates varied from 2½ annas for boys to 5 annas for men.

25. The establishment consisted entirely of the Forest officials belonging to the Chamba Division, and comprised one forester, *Hushnaku*, on Rs. 15 (subsequently promoted to Rs. 20) and 3 forest guards. There was no extraneous establishment. The whole of the work was done by daily labor supervised by the establishment and Divisional officers; it was not found practicable to do any of it by contract, as, from the novelty of the work, rates could not be framed for contract work.

26. Common country gunpowder made on the spot was used for blasting, for the most part; a small supply of Nobel's dynamite cartridge (150 lbs.) was obtained from Bombay; but it was, though much more powerful than gunpowder, found far too expensive to be used on a large scale; part was used in the slide, and the rest in blasting rocks in the river below the end of the slide.

27. In a work of such magnitude and such a nature it was hardly to be expected that accidents of some kind would not occur; every care was taken and men employed as signallers in every description of the work, but still there were six fatal accidents—4 men were killed by falling trees, 1 man was crushed to death by a log in the slide, and one man fell through a bridge and fractured his skull. A few men were injured, the worst case necessitating amputation in the leg. There were no accidents from dynamite or gunpowder, a matter for congratulation, when it is considered that 150 lbs. of dynamite were exploded in all, and 8,450 lbs. of gunpowder.

28. On an average 4 oz. of powder were used to each blast, or in all some 30,000 blasts on the whole work, and with this some 90,000 cubic feet of rock was cut away.

29. The total quantity of walling made was 250,000 cubic feet; and of excavation about 200,000 cubic feet.

30. The plans were made by Mr. J. Copeland, Assistant Conservator, who commenced the work in May 1883, and held entire charge of it till he was transferred to the Gujranwala Division in August 1884. Since that date it has been in charge of Hushnaku forester and three forest guards, aided in many ways by Din Mohammed, the contractor for the launching of the logs.

J. C. McDONELL,
Deputy Conservator of Forests.

W. Ball & Co., Govt. Printers.—17-6-86.—350.

APPENDIX II.

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Reserved Forests. Name.	Reserved Forests. Area in acres.	No. and date of Gazette Notification.
HAZARA.	Hazara ...	Kaghan.	Manserha ...	Kaghan Range Reserves	Gali Batrasi	1,252	Not notified in Gazette. Sanctioned No. 1425, dated 27th October 1873, from Punjab Government to Financial Commissioner. Taken up under Section 2 of Regulation II of 1879, (Hazara Forest Regulation)
	,, ...		,, ...		Lachi Khan	1,197	
	,, ...		,, ...		Kashian	1,284	
	,, ...		,, ...		Makheir	2,170	
	,, ...		,, ...		Manna	1,225	
	,, ...		,, ...		Malkandi	4,861	
	,, ...		,, ...		Chitta Par	2,146	
	,, ...		,, ...		Nuri Bichla	8,776	
	,, ...		,, ...		Manur	1,500	
	,, ...		,, ...		Dewan Bela	862	
	,, ...		,, ...		Kharkan	4,019	
	,, ...		,, ...		Chitta Gatta	432	
	,, ...		,, ...		Batal	895	
	,, ...		,, ...		Narang	1,715	
	,, ...		,, ...		Bhimbal	166	
	,, ...		,, ...		Andera Bela	958	
	,, ...		,, ...		Kinari	718	
	,, ...		,, ...		Shor Tham	903	
	,, ...		,, ...		Kamalban	4,938	
	,, ...		,, ...		Manshi	5,346	
	,, ...		,, ...		Nagan Sikian	4,232	
	,, ...		,, ...		Masar	7,892	
	,, ...	Siran.	Manserha ...	Siran Range Reserves.	Daddar	801	No. 1425, dated 27th October 1873, from Punjab Government to Financial Commissioner.
	,, ...		,, ...		Pinjul	7,218	
	,, ...		,, ...		Una	5,083	
	,, ...		,, ...		Paryai	1,387	
	,, ...		,, ...		Baz Khan	1,053	
	,, ...		,, ...		Tanglai	5,444	
	,, ...	Dungagalli.	Abbottabad	Dungagalli Range Reserves.	Bhattian	95	No. 426, dated 6th April 1872, from Punjab Government to Financial Commissioner.
	,, ...		,, ...		Sir	1,698	
	,, ...		,, ...		Surjal	179	
	,, ...		,, ...		Palak	319	
	,, ...		,, ...		Langal	61	
	,, ...		,, ...		Darwaza	2,021	
	,, ...		,, ...		Tajwal	1,651	
	,, ...		,, ...		Riyala	111	
	,, ...		,, ...		Kau	2,416	
	,, ...		,, ...		Birot	904	
	,, ...		,, ...		Bagan	5,504	
	,, ...		,, ...		Pir Kot	136	
	,, ...		,, ...		Tuplah	63	
	,, ...		,, ...		Nagri Tali	171	
	,, ...		,, ...		Makol Tarli	296	
	,, ...		,, ...		Makol Otla	19	
	,, ...		,, ...		Akhruta	205	
	,, ...		,, ...		Tatrila	3	
	,, ...		,, ...		Nagri Otli	1,166	
	,, ...		,, ...		Bagh	886	
	,, ...		,, ...		Bandi Maira	124	
	,, ...		,, ...		Bagnotar	461	
	,, ...		,, ...		Namli Maira	907	
	,, ...		,, ...		Bakot	2,771	
	,, ...		,, ...		Jhut Mang	75	
	,, ...		,, ...		Phalkot	2,832	
	,, ...		,, ...		Muliya	626	
	,, ...		,, ...		Sangal	631	
	,, ...		,, ...		Nammal	1,347	
	,, ...		,, ...		Majulian	896	
	,, ...		,, ...		Pattan Bara	546	
	,, ...		,, ...		Bandi Sarara	216	
	,, ...		,, ...		Siyalkot	424	
	,, ...		,, ...		Biran Gali	1,589	
	,, ...		,, ...		Indur Seri	1,088	
	,, ...		,, ...		Jhaffar	384	
	,, ...		,, ...		Chhatri	1,072	
	,, ...		,, ...		Chamyali	138	
	,, ...		,, ...		Khokhariyala	197	
	,, .		,, ...		Banota	222	
	,, ...		,, ...		Larhi	614	
	,, ...		,, ...		Maira Khatwal	1,131	
	,, ...		,, ...		Bahloliya	102	
	,, ...		,, ...		Kakul	414	
	,, ...		,, ...		Banda Pir Khan	230	
	,, ...		,, ...		Tarnwai	2,652	
	,, ...		,, ...		Samli Dehri	1,278	
	,, ...		,, ...		Bandi Pahar	152	

and forests under District Officers arranged according to Forest Units.

Protected Forests.			No. and date of Gazette Notification.	Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.		Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
								Abbottabad Civil rakh ...	309

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range	Tahsil.	Reserved Forests. Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.
HAZARA—*concluded.*	Hazara ...	Khanpur.	Abbott-abad	Khanpur Range Reserves.	Dotara	270	No. 1265, dated 2nd October 1872, from Punjab Government to Financial Commissioner.
	,, ...		,, ...		Rahi	190	
	,, ...		,, ...		Khui	231	
	,, ...		,, ...		Sataura	1,786	
	,, ...		,, ...		Triman	392	
	,, ...		,, ...		Chenali	391	
	,, ...		,, ...		Mari	682	
	,, ...		,, ...		Samundar	293	
	,, ...		Harripur ...		Serh	2,646	
	,, ...		,, ...		Jawalian	1,376	
	,, ...		,, ...		Garm Thun	2,675	
	,, ...		,, ...		Chhoi	283	
	,, ...		,, ...		Kamalpur	222	
	,, ...		,, ...		Karwali	999	
	,, ...		,, ...		Khui Kamam	3,404	
	,, ...		,, ...		Kharala	732	
	,, ...		,, ...		Dartian	515	
	,, ...		,, ...		Kohala Lasan	6,493	
	,, ...		,, ...		Bokan	91	
	,, ...		,, ...		Babotri	596	
	,, ...		,, ...		Naroto	1,010	
	,, ...		,, ...		Kotla	1,629	
	,, ...		,, ...		Nilan Bhoto	2,950	
	,, ...		,, ...		Ferozpur	365	
	,, ...		,, ...		Sangrari	520	
	,, ...		,, ...		Kandi	169	
	,, ...		,, ...		Bhuchar	258	
	,, ...		,, ...		Pina	179	
	,, ...		,, ...		Nala	254	
	,, ...		,, ...		Kuhmal	185	
RAWALPINDI	Rawalpindi	Fatteh-jang.	Fattehjang...	Fatteh-jang Reserves.	Kauliál	1,207	No. 95 F., dated 1st March 1879, under Section 34 of Forest Act.
	,,		,, ...		Kheri Murat	13,775	
	Rawalpindi...	Attock.	Attock ...	Attock Reserves.	Kawagarh	4,159	No. 95 F., dated 1st March 1879, under Section 34 of Forest Act.
	,, ...		,, ...		Kherimar	2,261	
	Peshawar ...		Daudzai ...		... ...	...	
	Rawalpindi...	Rawalpindi.	Rawalpindi...	Rawalpindi Reserves.	Margalla	30,130	No. 95 F., dated 1st March 1879, under Section 34 of Forest Act.
	,, ...		,, ...		Bannigalla	765	
	,, ...		,, ...		Maira	1,257	
	,, ...		,, ...		Thamair	3,368	
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...	Kahuta Range.	Gujar Khan...	Kahuta Range Reserves.	Bagham	5,910	No. 95 F., dated 1st March 1879, under Section 34 of Forest Act.
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		Kahuta				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				
	,, ...		,,				

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
								Manákrai	584
Kalá chitta.	Kalachitta, (partly in Attock Tehsil.)	98,575	No. 95 F., dated 1st March 1879, under Section 34 of Forest Act.					Bagra	1,096
								Dungi	4,869
								Attock	4,721
				Jabbha Jhil.	Jabbha Jhil ...	580			
								Pindi Ranja ...	157
								Adiala	2,878
								Dhamial	973
								Takht Pari	2,178
								Lohi Bhir	931
								Topi	377
								Banda	243
				Kahuta Range Rks.	Narar	1,369			
					Balimah	780			
					Khad	1,628			
					Banahil	1,763			
					Bhaogarh	812			
					Raj Dhani	836			
					Nala	610			
					Thuthar	369			
					Palakhar	449			
					Thoa	199			
					Dadila Mator ...	524			
					Chinam	1,125			
					Javand	1,760			
					Seri	500			
					Janhatal	1,286			
					Suheri	324			
					Beorkhalol	1,342			
					Las	273			
					Kanand	482			
					Hanesar	595			
					Palah	200			
					Gura	671			
					Kulthia	1,210			
					Kajli Bau	370			
					Maniand	515			
					Salitha	926			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests.			No. and date of Gazette Notification.
				Forest unit.	Name.	Area in acres.	
RAWALPINDI—*continued.*	Rawalpindi...	Kahuta Range.	Kahuta ...				
	" ...		" ...				
	" ...		" ...				
	" ...		"

and forests under District Officers arranged according to Forest Units.

Protected Forests.			No and date of Gazette Notification.	Ungazetted Forests			Under District Officers		
Forest unit.	Name.	Area in acres.		Forest unit.	Name	Area in acres	Forest unit.	Name	Area in acres
				Kahuta Range Rakhs	Panathi .. .	797			
					Utrina	522			
					Bindla	606			
					Panjar . ..	2,120			
					Kaloian Chakla ...	2,672			
					Salambar	550			
					Khuian	608			
					Haruta	256			
					Kamra	2,055			
					Chanjrian	1,721			
					Karl	5,339			
					Talhetar	798			
					Chila Chera ...	3,868			
					Pharwala . ..	798			
					Salanga .	481			
					Sang . .	3,627			
					Pirphirian	759			
					Danohi	1,816			
					Parindla	906			
					Chent . ..	774			
					Bhangal	1,423			
					Dhamnuta . ..	329			
					Jantra . ..	789			
					Baga . ..	500			
				Murree Range Rakhs	Baroha	1,125			
					Karlot Salgraon ..	1,500			
					Daleh	1,190			
					Salgraon	600			
					Manga	1,250			
					Nand Kot . .	2,068			
					Seribari . ..	2,670			
					Gora Galli	144			
					Saneo .	198			
					Kachut ..	480			
					Samli Bheramal .	1,840			
					Anguri . .	340			
					Juma . .	962			
					Salkhetar . .	695			
					Khatar .. .	3,900			
					Simli . .	320			
					Kharatian . ..	2,450			
					Mangal	1,080			
					Chaka ..	2,960			
					Phapril . .	960			
					Charihan .	2,110			
					Bara Hotar ..	317			
					Bagla . .	936			
					Bhamrot ..	573			
					Ariari ..	2,268			
					Ambani . .	982			
					Kalhabasand	780			
					Chama	388			
					Sangseri .	400			
					Papundhi Patriata	4,800			
					Darnoian .	589			
					Khanwas .	636			
					Kotli .	920			
					Thun . .	634			
					Badnian	608			
					Balaura .	826			
					Dhir Koti ..	1,406			
					Jawa ..	665			
					Chujana Malot .	1,887			
					Hokraker . .	465			
					Birgraon . .	548			
					Ghoi ..	1,673			
					Kohati . ..	752			
					Potha . .	706			
					Kaseri ...	587			
					Dhar . ..	254			
					Masot . .	466			
					Bhurban . .	607			
					Khanitak . .	932			
					Aucha	800			
					Dewal	862			
					Pael . .	358			
					Gianthal	448			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.
RAWALPINDI—concluded.	Rawalpindi ...	Pindigheb Range.	Pindigheb ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
	,, ...		,, ...				
CHAMBA.	Chamba ...	Pangi.	Pangi ...	Pangi Forests.	Laj	1,500	Leased forests not notified in the Gazette.
	,, ...		,, ...		Kanun	200	
	,, ...		,, ...		Urnu	500	
	,, ...		,, ..		Chatwani	1,000	
	,, ...		,, ...		Sidke-dera	1,000	
	,, ...		,, ...		Rangi	1,500	
	,, ...		,, ...		Chalkot	2,000	
	,, ...		,, ...		Kalatop	1,500	
	,, ...		,, ...		Pontu	1,000	
	,, ...		,, ..		Kagal	500	
	,, ...		,, .		Chota Bambal	1,500	
	,, ...		,, ..		Pillu	100	
	,, ...		,, ...		Kadhan	500	
	,, ...		,, .		Moji	200	
	,, ...		,, ...		Saichu	500	
	,, ...		,, ...		Bara Bambal	2,000	
	,, ...		,, ...		Kulal	1,500	
	,, ...		,, ...		Chak Manda	1,000	
	,, ...		,, ..		Kaslun	1,000	
	,, ...		,, ..		Re	200	
	,, ...		,,		Chao	1,200	
	,, ...		,,		Thandal	500	
	,, ...		,,		Ajoj	800	
	,, ...		,,		Nildhar	1,000	
	,, ...		,,		Pangu	1,000	
	,, ...		,, ..		Thanda	400	
	,, ..		,, .		Shaoruni	600	
	,, ...		,, .		Shor	500	
	,, ...		,, ...		Sagalwas	1,000	
	,, ...		,, ...		Krakun	200	
	,, ...		,, .		Chaned	400	
	,, ...		,,		Sunali	200	
	,, ...		,, .		Kain	800	
	,, ...		,,		Brakne	2,000	
	,, ...		,,		Dhandal	1,000	
	,, ...		,,		Rumas	1,000	
	,, ...		,, ..		Salkot	2,000	
	,, ...		,,		Dared	200	
	,, ...		,, ...		Kurial	1,000	
	,, ..		,,		Ratoli	400	
	,, ...		,, .		Salpat	1,200	
	,, ...		,, ...		Shutal	800	
	,, ...		,, ...		Riodhan	600	
	Chamba .	Bhandal.	Balni .	Bhandal Forest.	Nagah	18	Leased forests not notified in the Gazette
	,, ...		Jund		Badka	46	
	,, ...		,, ..		Saraul	73	
	,, ...		Manjir		Gothan	163	
	,, ...		Kihar ...		Kalor	28	
	,, ...		,, ...		Dhauri	37	

and forests under District Officers arranged according to Forest Units.

Protected Forests.			No. and date of Gazette Notification	Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.		Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
								Kalachitta	48,806
								Dhok Mila	2,220
								Utran	2,954
								Mairanalhad ...	4,586
								Naka Kalan ...	942
								Trap Narain ...	2,766
								Makhad	7,625
								Goki	1,002
								Torabera	2,046
								Saulian	4,992
								Chitti	7,725
								Gulial	16,998
								Mari	3,261
								Jabbi	1,240
								Tawin	8,901
								Kot Chhajji ...	252
								Do. (*a*) ...	338
								Do. (*b*) ...	1,057
								Aranwali	944
								Bhatiot	439

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Forest unit.	Reserved Forests. Name.	Area in acres.	No. and date of Gazette Notification.
CHAMBA—*contd.*	Chamba	Bhandal.	Bhandal	Bhandal Forests.	Ganehtar	55	Leased forests not notified in the Gazette.
	,,		,,		Malun	46	
	,,		,,		Bhangoli	258	
	,,		,,		Panoga	37	
	,,		,,		Khani	465	
	,,		,,		Dhajju	205	
	,,		,,		Kokeran	32	
	,,		,,		Jamla	216	
	,,		,,		Phatri	332	
	,,		,,		Bholka	64	
	,,		,,		Chad Bhent	1,330	
	,,		,,		Chota Joura	90	
	,,		,,		Salot or Langera	2,017	
	,,		,,		Supa Cholu and Korn	451	
	,,		,,		Gagri	396	
	,,		,,		Bir	608	
	,,		,,		Bangotla	295	
	,,		,,		Guari	129	
	,,		,,		Ranjal	157	
	,,		,,		Dundi	28	
	,,		,,		Ladadi	37	
	,,		,,		Nalwad	437	
	,,		,,		Guinal	184	
	,,		,,		Bhoeda	157	
	,,		,,		Jalari	295	
	,,		,,		Khoran	366	
	,,		,,		Kalotar	174	
	,,		,,		Dhambru	37	
	,,		Diur		Datrund	534	
	Chamba	Tisa.	Himgari	Tisa Forests.	Gamir	234	Leased forests not notified in the Gazette.
	,,		,,		Himgari	534	
	,,		,,		Chil	174	
	,,		,,		Tikri	12	
	,,		,,		Kangu	1,549	
	,,		,,		Chandrol	120	
	,,		,,		Sagwari	212	
	,,		,,		Aile	55	
	,,		,,		Sau	27	
	,,		Barnota		Chachul	18	
	,,		,,		Janghanni	9	
	,,		,,		Sagti	74	
	,,		Sai		Kela	120	
	,,		,,		Junt	557	
	,,		,,		Kandrolu	435	
	,,		,,		Helar and Barkias	640	
	,,		,,		Majonr	150	
	,,		,,		Shaol	332	
	,,		,,		Siul	12	
	,,		Baira		Guil	10	
	,,		,,		Mansa	102	
	,,		,,		Neru	998	
	,,		,,		Singra	358	
	,,		,,		Gudan	10	
	,,		,,		Dind	250	
	,,		,,		Dovi Kothi	200	
	,,		,,		Doloren	1,200	
	,,		,,		Chandru	20	
	,,		,,		Tain (Upper)	1,000	
	,,		,,		Tain (Lower)	1,000	
	,,		,,		Pogthala	25	
	,,		Tisa		Dhauri	160	
	,,		,,		Samal	20	
	,,		,,		Bara	1,500	
	,,		,,		Dangha Makua	1,501	
	,,		,,		Taun	281	
	,,		Tikri		Kalwala	179	
	,,		,,		Garpari	30	
	,,		,,		Banota	50	

and forests under District Officers arranged according to Forest Units.

Protected Forests.			No. and date of Gazette Notification.	Ungazetted Forests.			Under District Officers.		
Forest unit	Name.	Area in acres.		Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District	Range.	Tahsil.	Forest unit.	Reserved Forests. Name	Area in acres	No and date of Gazette Notification.
CHAMBA—continued.	Chamba ...	Tisa—continued.	Chanju ..	Tisa Forests.	Jured	1,331	Leased forests not notified in the Gazette
	" ...		" ..		Dera	25	
	" ...		" ...		Jamu and Khalwali ...	998	
	" ...		" ..		Topi	1,152	
	" ...		Jamor ...		Sundri	307	
	" ..		" ...		Bassued	404	
	" ...		" ...		Mundi Bai	332	
	" ...		" ...		Duari	486	
	" ..		" ...		Chumar Chuna	358	
	" ...		" ...		Grunji	45	
	" ..		"		Kajriala	50	
	" ...		" ..		Dand	322	
	" ...		"		Sloh	387	
	" ...		"		Lindi Be	218	
	" .		" ..		Kansar	387	
	" ...		" ...		Chatri	1,124	
	" ..		Kohal ..		Rupani	410	
	" ..		" ..		Sikri	1,025	
	" ...		" ..		Seri	115	
	" .		Daudi		Baijund	200	
	Chamba ...	Chamba.	Sao	Chamba Forests.	Supeka (2 pieces)	460	Leased forests not notified in the Gazette
	"		" ...		Gharosan	972	
	" .		" ...		Banjal	332	
	" .		"		Panjungla	391	
	" ...		" .		Thali	300	
	" ...		" ..		Junli	281	
	" ...		" .		Guari	307	
	Chamba		Lal ..		Bragun	256	
	" ...		" ...		Dager (Upper	204	
	" ...		" ...		" (Lower)	307	
	" ...		" .		Almi (right bank)	153	
	" ...		" .		" (left ")	76	
	" .		"		Khir Kil	537	
	"		"		Kanhetar	665	
	" ...		" .		Guar	563	
	Chamba		Kalandar		Kalandar	125	
	Chamba		Barmaur		Thanala	401	
	" .		" .		Digola	1,407	
	"		" ..		Dadun	409	
	"		"		Sua	230	
	"		"		Kated	153	
	Chamba .		Kothi		Sambra	742	
	"		"		Ure	798	
	Chamba		Piur		Garjar	230	
	" ..		" ...		Chitrari	10	
	" ..		"		Naini	10	
	"		" ...		Trauni	15	
	" ...		" .		Sakral	50	
	" ..		" .		Gonu	10	
	Chamba ..		Basu .		Bre	947	
	"		" .		Baliani	844	
	" .		"		Kundi	409	
	Chamba		Bakani		Kalwarn	486	
	"		"		Sana	409	
	" ..		" ..		Padri	742	
	"		" .		Bohar	1,000	
	" ...		" .		Charindi	947	
	Chamba ..		Maila		Rambo	567	
	" ..		"		Loha	32	
	" ...		"		Phatnu	341	
	" ..		"		Lanot	351	
	"		"		Motru	78	
	Chamba ..		Bhareyan		Bandharbani . ..	433	

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division	District.	Range.	Tahsil	Reserved Forests. Forest unit.	Name	Area in acres	No and date of Gazette Notification
CHAMBA—concluded	Chamba	Barmaur	Barmaur	Barmaur Forests	Chobia	30	Leased forests not notified in the Gazette
	"		"		Tala	60	
	"		"		Balgar and Harsar	5	
	"		"		Draul	281	
	"		"		Lal	102	
	"		"		Behaun	76	
	"		"		Kugti	1,996	
	"		"		Mahaun and Harsar	665	
	"		"		Brangala	1,049	
	"		"		Satli	5	
	"		"		Khund	204	
	"		"		Rajour	281	
	"		"		Moru	844	
	"		"		Seura	358	
	"		"		Pre	307	
	"		"		Mahaun	128	
	"		"		Kilrani	512	
	"		"		Drub	25	
	"		"		Rakhani and Chobu	563	
	"		"		Solakra	102	
	"		"		Mandoru	256	
	Chamba		Treta		Chulan	512	
	"		"		Pandban	563	
	"		"		Gandhir	665	
	"		"		Agrali, upper, lower and central Nawagraon	562	
	"		"		Sawin	153	
	"		"		Nawai	204	
	"		"		Tani Nali	435	
	"		"		Majahra	25	
	"		"		Andarla gran	128	
	"		"		Sutkar	204	
	Chamba		Deol		Deosar	128	
	"		"		Deol	51	
	Chamba		Chanota		Rupighai and Nagbani	435	
	"		"		Guari	40	
	"		"		Hilang, Satun and Phern	2,480	
	"		"		Raksunnu	1,254	
	"		"		Ser Paku and Churimol	1,126	
	"		"		Hippam and Marot	307	
	"		"		Galnot	56	
	"		"		Ali Drun	1,100	
	"		"		Banot and Barwali	512	
	"		"		Kurir	456	
	"		"		Siya	128	
	Chamba	Dalhousie	Choahri	Kainthli	Kainthli	964	Leased forests not notified in the Gazette
	Chamba		Batri	Kalatop	Kalatop	2,440	Ditto ditto
	"		"		Dadra	153	
	Chamba		"	Ranikhet	Banikhet	211	Ditto ditto
	"		"		Surkigalli	306	
	Chamba		Ubhar	Bakloh	Bakloh	457	Ditto ditto
	"		"		Bela	186	
	Gurdaspur	River	Pathankote				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				

and forests under District Officers arranged according to Forest Units.

Protected Forests.			No. and date of Gazette Notification.	Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.		Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
				Gurdaspur Rakhs.	Dalladhar	2,206		Dhadan Darang ...	188
					Salari Manso ...	381		Bamrota	36
					Sipar	814		Phangtoli	114
					Sukret	496		Bhanwal Lambi Sir	400
					Bhutan	459		Kukrur	555
					Bhun	219		Ghatera	309
					Moran	115		Pharal	16
					Naghdar	1,738		Budra	284
					Narainpur	292		Palungi	598
					Raila Baroh ...	203		Ban Lakar ...	888
					Seli Dhar ...	1,282		Mandola	405
					Dhaula Tikar ...	677			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Forest unit.	Reserved Forests. Name.	Area in acres.	No. and date of Gazette Notification.
KANGRA.	Hoshiarpur...	Dera Range.	Unah ...	Dera Reserves.	Panjal	1,469	No. 110 F., dated 6th March 1879, under Section 34. of Forest Act.
	" ...		" ..		Lohara (a)	1,250	
	" ...		" ...		Lohara (b)	3,323	
	" ..		" .		Darui (a)	845	
	" ...		" ...		Darui (b)	373	
	" ...		" .		Darui (c)	160	
	" ...		" ..		Darui (d)	716	
	" ..		" ...		Darui (e)	321	
	" ...		" ...		Darui (f)	202	
	" ...		" ..		Darui (g)	245	
	Hoshiarpur...		Dasua .		Bindraban (bamboo forest) ..	2,516	No. 111 F., dated 6th March 1879, under Section 34 of Forest Act.
	" ...		" ...		Karnpur	3,381	
	Kangra ..		Dera ..		Habrol and portion of Gumar	731	
	" ...		" ..		Gumar, 2nd portion ...	412	
	" ...		" ...		Bohan	250	
	" ...		" ...		Drang, Amb and Khandwar ...	627	
	" ...		" ...		Khandwar, 2nd portion ...	107	
	"		" .		Phakloh	55	
	" ...		" ..		Gagrui and Bharnal	285	
	" ...		" ..		Goala	183	
	" ...		" ..		Thattohr...	60	
	" ...		" ..		Chowki Dhorián ...	61	
	" ...		" ..		Sonali	61	
	" ..		" ...		Tiri	52	
	" ..		" ...		Nalian .	179	
	" ...		" ...		Khalag	56	
	" ...		" ...		Jamoli	46	
	" ...		" ...		Tilli	1,040	
	" ...		" ...		Chamb and Ghagar	101	
	" ..		" ...		Kholi	110	
	" ...		" .		Mohrban	70	
	" ...		"		Kherian	460	
	" ...		" ..		Paniali	105	
	" ...		" ..		Dhangar I	182	
	" ...		" ...		Dhangar II	39	
	" ...		" ...		Jaini Masrur and Tangli ...	508	
	" ...		" ..		Jaini (2nd portion)	79	
	" ..		" .		Baldon	505	
	" ...		" ...		Khamáhan	378	
	" ..		"		Jonat	298	
	" ...		" ...		Lohjung	1,082	
	" .		" ...		Samlian	537	
	" ...		" ...		Kuhru	148	
	" ...		" ..		Balwal	21	
	" ...		" ..		Chaplah	77	
	" ...		" ...		Chanour	58	
	" ..		" ..		Tramal	135	
	" ..		" .		Dodra	56	
	" ...		"		Bakarar	455	
	" ...		" ..		Bihan	127	
	" ...		" ...		Baliana	30	
	" .		"		Dangara	35	Ditto ditto.
	" ...		" ...		Sadwan and Garli	120	
	" ...		" ..		Kloha Khas, 1st portion ..	27	
	" ...		" ..		Kloha, 2nd portion & Rakar	26	
	" ...		" ..		Kharoti	13	
	" ...		" ..		Bharanta	86	
	" ..		" ...		Chaplah	34	
	" ..		" ..		Kokahar...	25	
	" ..		" ..		Naun	257	
	" ...		" ..		Santhála	403	
	" ...		" ..		Saleti	83	
	" ...		" ...		Aloh I	32	
	" ...		" ...		Aloh II	30	
	" ...		" ...		Jarui ...	84	
	" ...		Hamirpur				
	" ...		"				
	" ...		" .				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
				Hoshiarpur Rakhs.	Names not recorded.	42,240			
								Anandbir	1,596
					Karot	527			
					Cheli Matroh ...	138			
					Chabutra	813			
					Dhar Guga	131			
					Dagnera ...	80			
					Samloi ...	158			
					Chaniara ...	116			
					Ghariana	89			
					Bajuri II	127			
					Bajuri I	570			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests.			No. and date of Gazette Notification.
				Forest unit.	Name.	Area in acres.	
KANGRA.—(*continued*).	Kangra ...	Dera Range.	Hamirpur ...				
	" ...		" ...				
	" ...		" ...				
	" ...		"

and forests under District Officers arranged according to Forest Units.

Protected Forests				Unclassed Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name	Area in acres.
				Dera Bakha.	Dhurkhár	224			
					Mudiáni	306			
					Karár	270			
					Guloh	56			
					Salán	358			
					Ghansora	202			
					Dhár Jajar, Dhár Jakh and Dhar Pukhra	1,718			
					Humal	414			
					Dain	125			
					Badhar	239			
					Badiana I	46			
					Badiana II	83			
					Tilokpur	372			
					Samtána	878			
					Dangota	120			
					Sathwin No. II	95			
					Khilawat	162			
					Sathwin No. I	166			
					Phairwin	62			
					Kharal No. I	505			
					Kharal No. II	208			
					Pamali	80			
					Jhumrani	192			
					Gilor Khas	18			
					Naural	206			
					Dharra	138			
					Awah	489			
					Bakroh	207			
					Dessu	200			
					Thana	116			
					Jathunda	150			
					Kangar	413			
					Khajian	97			
					Dabriana	69			
					Bijri	103			
					Guthiana Batiana	123			
					Chalsa	276			
					Gangot	422			
					Biru	140			
					Samaila	853			
					Kulhal	130			
					Dhar Sidh	1,736			
					Reli	1,087			
					Ban Dukh	222			
								Bamboh	5,000
								Drini	7,000
								Bainálá	1,350
								Doli Chakban	1,074
								Borusarna	1,248
								Rhilu	236
								Kareri Chakban	10,000
								Chari	1,204
								Dharmsala Chakban	2,000
								Upper Dharamsala	700
								Saded	605
								Lower Dharamsala	166

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests.			No. and date of Gazette Notification.
				Forest unit.	Name.	Area in acres.	
KANGRA—*concluded.*	Kangra ...	Kangra Range under District management.	Kangra ...				
	" ...		" ...				
	" ...		" ...				
	" ...		"

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name	Area in acres.	Forest unit.	Name.	Area in acres.
								Sara	672
								Kaniara	6,000
								Chandarbhali ...	4,000
								Narwanacheli ..	94
								Soupdhar	4,000
								Pundban	3,726
								Bagpura	1,200
								Bandúrá Chichian	110
								Kasmal	174
								Bagotla	123
								Kalában	1,723
								Ban Dhiara Kandi	270
								Birni .. .	2,205
								Sarari	230
								Bári	4,000
								Lanode	1,500
								Kundrali ..	210
								Manhi	790
								Dewal .. .	5,000
								Sansal	3,000
								Panjala	203
								Bir	3,000
								Keori-ki-Cheli ...	267
								Bhagi Dhar ...	228
								Sonpur	93
								Sakri-da-ban ..	72
								Andretta	180
								Maniara	437
								Kurang	302
								Karahu	99
								Mundi	168
								Rajun . ..	611
								Cheli Barath ...	68
								Charet	723
								Bheru	96
								Chunga Devi ...	353
								Pathiar	1,406
								Dhalun	314
								Naina Devi ..	518
								Kuhalá	451
								Giana . ..	216
								Kaned	66
								Sadun	282
								Palra-di Cheli .	103
								Kandi Dolru ...	201
								Erla . ..	216
								Danoa	157
								Kharti	513
								Ghian	1,628
								Chakban Jasai ..	867
								Ranital . ..	1,361
								Chakban Galian ..	864
								Galian-ki-Cheli ...	98
								Lanj Chakban	3,456
								Ban Sulwana ...	625
								Ramgarh	1,040
								Pundwar	3,000
								Raltung	380
								Jolda Kalra ...	970
								Ghrat Kohla ...	214
								Cheli Dharthar ..	860
								Niar Kohla ...	450
								Pahid Cheli ..	96
								Shahpur	120
								Tiara	600
								Samirpur	786
								Daulatpur	1,413
								Gulkeri	1,000
								Tunta	400
								Dangi	500
								Kel	250
								Bugi	150
								Butli	1,600
								Sura	250
								Marala	200
								Tainta	700
								Dan China ...	350

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Forest unit.	Reserved Forests. Name	Reserved Forests. Area in acres.	No and date of Gazette Notification
KANGRA—concluded.	Hoshiarpur	Beas River Range.	Dasuya	Belas	Bagarian	525	No. 113 F., dated 6th March 1879, under Section 34 of Forest Act
	"		"		Mullanwal	60	
	Amritsar		Tarn Taran	Gagriwal.	Gagriwal	445	
KULU.	Kangra	Upper Kulu Range.	Kulu				
	"		"				
	"		"				
	"		"

and forests under District Officers arranged according to Forest Units.

Protected Forests				Ungazetted Forests			Under District Officers		
Forest unit	Name	Area in acres	No and date of Gazette Notification	Forest unit.	Name	Area in acres.	Forest unit	Name	Area in acres
				Upper Kalu Range unreserves	Dungri	60			
					Manalgan	84			
					Danabial	30			
					Sial Bial	80			
					Seta Dhag (Shalin),	350			
					Jalor	300			
					Bajraundi	1,000			
					Gugta Dhug	180			
					Kalount	100			
					Dudlu	200			
					Rahni	260			
					Aleo Bial	120			
					Hamta	15			
					Jamari	420			
					Brunudhar	750			
					Padri Chalon	350			
					Sajla Sil	450			
					Damsu Kalaon	200			
					Seta Dhag	300			
					Padra Danach	150			
					Somban	37			
					Batar Bial	61			
					Deoban and Chabar,	440			
					Jhangar Kalaon	500			
					Nagar Jhir	240			
					Rashnal	100			
					Lower Sesni	200			
					Pheta Ban	140			
					Ledi Chalon (smaller)	5			
					Ledi Chalon (larger)	150			
					Fojal Kalaon	80			
					Gumeri	1,700			
					Patalsu	2,400			
					Kangni	4,240			
					Mirg ki Dhar	500			
					Shanag Shil	2,000			
					Sanchal	150			
					Bangdwari	1,760			
					Monal Garh	2,000			
					Kanail Garh	540			
					Shalin Garh	1,640			
					Kothitich	2,000			
					Mati Ban	3,240			
					Manju Ban	400			
					Sari Dhar	460			
					Upper Dudlu	100			
					Upper Rehni	200			
					Hamta Garh	720			
					Jumaridhar	1,640			
					Bansaidadugh	1,240			
					Jamudugh	200			
					Upper Sajla Sil	480			
					Upper Seta Dhag	200			
					Jangi	3,000			
					Parol	2,000			
					Upper Sesni	1,120			
					Marhaun	680			
					Padra Reas	800			
					Bajoin Dhar	300			
					Bandura Shangti	1,260			
					Dudlu	1,580			
					Tangrol	3,200			
					Khorudugh	2,760			
					Gogul	3,340			
					Nagoni	2,320			
					Halan Sil	1,320			
					Naram Dugh	5,000			
					Manjla Ban	2,500			
					Peting	800			
					Hamsu Sil	650			
					Jabho Sil	450			
					Haripani	680			
					Shila Garh	1,280			
					Kala Bakra	160			
					Sila Dal	900			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests.			No. and date of Gazette Notification.
				Forest unit.	Name.	Area in acres.	
KULU—*continued*	Kangra	Lower Kulu Range.	Kulu				
	"		"				
	"		"				
	"		"

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests			Under District Officers		
Forest unit.	Name	Area in acres.	No. and date of Gazette Notification	Forest unit.	Name	Area in acres	Forest unit.	Name	Area in acres
				Lower Kulu Range unreserves	Jaung ...	400			
					Sandhar . .	72			
					Raj Giri	900			
					Niar Garh ...	2,500			
					Dukam	200			
					Devidi Jhir ...	150			
					Patha Nali . ..	150			
					Gogar Sil	200			
					Chilgau Kalaon .	140			
					Jamutatoh .. .	140			
					Borsu ..	400			
					Kandi . .	200			
					Sahita .. .	300			
					Kujiari Kalaon ...	30			
					Rasu . .	40			
					Soja	200			
					Kalli Dhag . ..	140			
					Chakoin ..	550			
					Riampin	150			
					Chotta Shungra ...	250			
					Reonsi Garh ...	280			
					Mulag Thana ..	450			
					Nagni	1,160			
					Kawara Gahr .	960			
					Charawat	260			
					Dukam	300			
					Mati Kochar ..	2,600			
					Pinsu ...	600			
					Mahout	600			
					Upper Patha Nali ..	100			
					Gora Dhag	1,540			
					Cheba Nag	1,400			
					Bakarrera	420			
					Sapur Nal . ..	460			
					Gong . ..	1,000			
					Babuka Nal ..	200			
					Shakhal . .	250			
					Dili Kotla	120			
					Pheti Mal	100			
					Jamupani	800			
					Longthach ...	960			
					Hathipur .	370			
					Marigh ...	60			
					Manda Dwar ..	160			
					Mathiana ...	2,760			
					Mujig . ..	300			
					Auriban . ..	100			
					Lot Banalig .	120			
				Inner Seoraj Range unreserves	Dheon Kaniali ..	250			
					Lafat ...	800			
					Reunsi ...	500			
					Kandhari ..	850			
					Sochli ..	200			
					Ralla .	3,000			
					Dewa Kauda ..	600			
					Dhangi ..	60			
					Chuar ...	160			
					Sharan Nal .	100			
					Rialla .	160			
					Dungruthana ..	143			
					Kauri Nal ...	50			
					Balo ..	80			
					Shegli . .	90			
					Deodwar .	80			
					Baghtachi ..	280			
					Raghoual	50			
					Karohadhar	55			
					Talota	440			
					Barrach	120			
					Dalicha ...	80			
					Latora, etc .	250			
					Seri Shil ...	220			
					Jibi .	18			
					Kajlahr ..	890			
					Kheunt	80			
					Relli Katerat .	210			
					Bataigahr . .	160			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District	Range.	Tahsil.	Reserved Forests			
				Forest unit.	Name	Area in acres	No and date of Gazette Notification
KULU—*continued.*	Kangra ...	Inner Seorj Range.	Plach ...				
	" ...		" ...				
	" ...		" ...				
	" ...		"

and forests under District Officers arranged according to Forest Units.

Protected Forests				Ungazetted Forests			Under District Officers		
Forest unit	Name	Area in acres	No and date of Gazette Notification	Forest unit	Name	Area in acres	Forest unit	Name	Area in acres
				Inner Seoraj Range unreserves	Palan	340			
					Bjoha	120			
					Bhindah	420			
					Salut	200			
					Kashia Dhar	280			
					Jalora	2,400			
					Bakhlara	314			
					Dingcha Kamali	30			
					Blaj Dhar	300			
					Salano	257			
					Pokhai Dhai	200			
					Kotla Dhai	140			
					Chihala Dhar	160			
					Naga Dhar	330			
					Ranni Kot	100			
					Balwagi	280			
					Sai Ropa	360			
					Dharagarh	160			
					Jhuth Kalwala	220			
					Dala	400			
					Sakiran	350			
					Sakiran Kanda	880			
					Topi Dhar	580			
					Banjat	600			
					Kansar	600			
					Chelor	600			
					Shir Dhunga	300			
					Bung	1,800			
					Basleo	1,500			
					Deoridhar	1,800			
					Bungdhar	1,000			
					Dimru	330			
					Bimu	340			
					Bimu Kalaon	36			
					Bohara	20			
					Kamlbagh	40			
					Rachi Kalaon	50			
					Wahana	45			
					Jaun Kalaon	15			
					Ditla Kalaon	85			
					Laol	280			
					Khanori	480			
					Khanidhar	100			
					Marhan Garh	100			
					Mahli Dhar	250			
					Chihala	300			
					Ratina	150			
					Hari Nal	1,180			
					Sari Kanda	900			
					Shikharla	760			
					Thach Garh	1,160			
					Galua Kalaon	160			
					Chera Kalaon	100			
					Dibri	220			
					Alehadhar	260			
					Kaigarh	1,520			
					Karsi ot	250			
					Dupanga	80			
					Kachinga	370			
					Malora	210			
					Kulchi	430			
					Guni Nal	520			
					Dashmani	420			
					Khani Nal	320			
					Rakhundi	9,800			
					Badhar	3,240			
					Basu	2,440			
					Gurkho	680			
					Tandi Dhar	250			
					Chaniara	260			
					Soa-ri-bir	35			
					Jagnahu	400			
					Mandarwachi	2,080			
					Sara	480			
					Dolnu	990			
					Tispui	1,080			
					Kamba	4,800			
					Hoomkani	5,000			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Forest unit.	Reserved Forests. Name.	Reserved Forests. Area in acres.	No. and date of Gazette Notification.
KULU—*continued.*	Kangra ...	Outer Seoraj Range	Plach ...				
	" ...		" ...				
	" ...		" ...				
	" ...		"

and forests under District Officers arrranged according to Forest Units.

Protected Forests			No and date of Gazette Notification	Ungazetted Forests			Under District Officers		
Forest unit.	Name	Area in acres		Forest unit.	Name	Area in acres	Forest unit.	Name	Area in acres
				Outer Seoraj Range unreserves	Marag Shil	280			
					Gadajakar				
					Takrassi	480			
					Duga Shil	280			
					Shirog	580			
					Pleo Shil				
					Kalandi Dhai	260			
					Tach Shil	140			
					Bagiglai	220			
					Panco				
					Jakro	320			
					Chotur	540			
					Chujala	640			
					Sakiran	380			
					Lantu	860			
					Jarono	45			
					Jalori	1,700			
					Kota Dhar	280			
					Rachatach				
					Bung	320			
					Bindraban				
					Paloini Chalon	250			
					Lambi Dhar	170			
					Koijakar	70			
					Dagrat	100			
					Baro	220			
					Bahrd				
					Olinal	190			
					Shila	260			
					Bhon	260			
					Gwan	360			
					Jadari	1,060			
					Barmaur				
					Khanora	360			
					Sathabindi	800			
					Trijakar				
					Parkot Shil	240			
					Jakani				
					Ihon	90			
					Gohan	1,040			
					Mandribil	2,020			
					Chul	1,320			
					Khanco	800			
					Kut	160			
					Kota Nal	400			
					Drad	760			
					Reuns				
					Ghaner Kalour	30			
					Malrao	640			
					Bung				
					Bashad	670			
					Damun	850			
					Patal	320			
					Marhakod	840			
					Margikaloun	60			
					Lohar	860			
					Bijuri	1,700			
					Drad	820			
					Kulapani	160			
					Jujuth	560			
					Maudrao	1,220			
					Rachokri	840			
					Kandi Shile	350			
					Dadai	1,240			
					Barnagi	1,260			
					Dwari Dauda	1,680			
					Prali Girchi	1,360			
					Dauda	4,000			
					Shakar	3,800			
					Shili Girchi	1,380			
					Balacha	540			
					Reuns	1,340			
					Kleo	2,460			
					Mul	380			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District	Range	Tahsil	Reserved Forests			No and date of Gazette Notification
				Forest unit	Name.	Area in acres	
KULU—*continued*	Kangra ...	Outer Seoraj Range—*concluded*	Plach .				
	" ..		" ...				
	" ...		" ...				
	" .		" ..				
	" ..		" ...				
	" ..		" ..				
	" .		" ..				
	" ...		" ..				
	" ..		" ..				
	" ..		" ..				
	" ...		" ...				
	" ..		" ...				
	" ..		" ...				
	"		"				
	Kangra ..	Wazir Rupi Range.	Rupi Jagir .				
	" ...		" .				
	" .		" ...				
	" .		" ...				
	" ...		" .				
	" ...		" ..				
	"		" ...				
	" .		" ..				
	" ...		"				
	"		" .				
	" .		" .				
	" ..		" ..				
	" ...		" ..				
	" ..		" ..				
	" ..		" .				
	" ...		" .				
	" ..		" ..				
	" ...		" ..				
	" ..		" .				
	" .		" ...				
	" .		" .				
	" .		" .				
	" ..		" ..				
	" ...		" ..				
	" ..		" ..				
	" ...		"				
	" ..		"				
	" ...		"				
	" ..		"				
	" .		"				
	" .		" ...				
	" .		" .				
	" ..		"				
	" .		"				
	" ..		"				
	" .		"				
	" .		"				
	" ..		"				
	" .		"				
	" ..		"				
	" .		" ..				
	" ..		" .				
	" .		" ..				
	" .		" .				
	" ..		"				
	" .		" ..				
	" ...		" ..				
	" ..		" .				
	" .		" ..				
	" ...		" ...				
	" ..		"				
	" ..		"				
	" .		"				
	" ..		" .				
	" ...		"				
	" .		" ..				
	" .		" .				
	" .		" .				
	" ..		" ...				
	" ...		"				
	" ..		"				
	" .		" ...				
	" .		"				
	"		" .				

and forests under District Officers arranged according to Forest Units.

Protected Forests				Ungazetted Forests.			Under District Officers		
Forest unit	Name	Area in acres	No and date of Gazette Notification	Forest unit.	Name	Area in acres.	Forest unit.	Name	Area in acres
				Outer Seoraj Range unreserves.	Gulol	600			
					Sanpatu	320			
					Tikar	2,240			
					Bagori	1,080			
					Brati	2,840			
					Dobda	1,360			
					Jiya	280			
					Siaru Nal	340			
					Gada Mawa	120			
					Tandi Ther	160			
					Shikarwa	150			
					Ramgarh	500			
					Lotkyaun	45			
					Shila	300			
				Waziri Rupi Range unreserves.	Gahr Nal	890			
					Reoni	1,340			
					Bekulser	360			
					Surjani	2,120			
					Nalchi	7,860			
					Pajbanag	1,700			
					Ratirar	1,100			
					Tasnal	7,360			
					Ratiruni	1,000			
					Kirganga	2,880			
					Kalga	1,180			
					Chaksi				
					Bandag	1,360			
					Phulga	150			
					Nakas	720			
					Tilalotun	2,760			
					Dudikhol	1,200			
					Shilagahr	2,080			
					Reona	4,380			
					Shatligar	940			
					Khobis	2,720			
					Grahn	10			
					Kasol	5,280			
					Somachaloun	400			
					Seorajpat	1,200			
					Ranithathi	200			
					Dunkra	600			
					Mul				
					Saran	720			
					Bindraban	223			
					Garhahet	80			
					Jari	100			
					Rakotan	20			
					Oridhar	200			
					Kailiban	330			
					Chinjara	100			
					Chola Nal	1,800			
					Muri	1,260			
					Shatni	700			
					Patiban	1,800			
					Khanoru Nal				
					Rajthathi	800			
					Kalga	800			
					Charitach	1,320			
					Khoruthach	1,480			
					Salusgar	160			
					Dimkri	700			
					Masu				
					Osan Banala	110			
					Diyar	100			
					Nirgaliban	90			
					Shalanda	60			
					Nari Dhar	60			
					Sisgahr	140			
					Shamidugh	220			
					Shearan	960			
					Brasu	140			
					Najan	200			
					Jaularang	1,040			
					Jaulid	640			
					Gotich	400			
					Bajana	340			
					Katrani	380			
					Keloban	180			

Statement showing the areas of reserved, protected and unyazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.
KULU—concluded.	Kangra ...	Wazirí Rupi Range—concluded.	Rupi Jagir ..				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ..		" ...				
	" .		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ..		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
BASHAHR.	Simla	Kilba Range	Bashahr (State)	Kilba Range Reserves.	Panwi	931	Leased forests Not notified in Gazette.
	" ...		"		Mazgani	1,296	
	" ...		"		Katstal Dipi		
	" ..		"		Ramni	536	
	" ..		"		Jani	1,072	
	" ...		"		Kalunga		
	" ..		"		Poonung	925	
	" ..		"		Phinla (including Wachamchi)	340	
	" .		"		Junpan	250	
	" ...		"		Tickru-Wasankan	200	
	" ..		"		Teuden	400	
	" .		"		Kalba	160	
	" ...		"		Kanahi	320	
	" ...		"		Kumkumi	403	
	" ...		"		Sapni		
	Simla ..	Kailas Range.	Bashahr (State)	Kailas Range Reserves.	Batoori		Ditto ditto.
	" ...		"		Burua		
	" ...		"		Shoang		
	" ...		"		Chasu (Rue and Gonla) ...		
	" ...		"		Chido		
	" ...		"		Limsuntung		
	" ...		"		Rakti Harba		
	" ...		"		Barsering (3 blocks)		

and forests under District Officers arranged according to Forest Units.

Protected Forests			No and date of Gazette Notification	Ungazetted Forests			Under District Officers		
Forest unit	Name	Area in acres		Forest unit.	Name	Area in acres.	Forest unit.	Name	Area in acres
				Wasiri Rapi Range unreserves—*concluded*	Thanarang	1,020			
					Gaglari				
					Hamka Dhar	580			
					Shilagahr	640			
					Hargirain	5,120			
					Niargai	5,280			
					Juligahr	560			
					Ilagahr	800			
					Brionagahr	100			
					Lichan	30			
					Sawani	820			
					Rajiara	800			
					Tandi	640			
					Goba	620			
					Sharidal	480			
					Maulgahi	980			
					Bitukanda	40			
					Churukanda	220			
					Run	140			
					Jadohan	360			
					Gohi	50			
					Tewa	1,440			
					Raila	55			
					Sharangahr	160			
					Mandraun	1,140			
					Drashar	4,800			
					Gatipat	980			
					Kanda Dhar	800			
					Panibaru	980			
					Deun	3,760			
					Thanor	700			
					Sawankanda	2,540			
					Gandiol	2,280			
					Nantiala	240			
					Doti Dhar	2,500			
					Shilut				
					Panu Dhai	240			
					Ranaga	140			
					Nilatotha	600			
					Kailikanda				
					Tilaru	5,680			
					Shengan				
					Sanjat				
					Parali	5,760			
				Kilba Range unreserves	Panwi				
					Melang and Poonang				
					Sapui				
				Kaika Range unreserves	Kabaran Kashagh				
					Churagong				
					Rallang				
					Chassu				
					Rhukti				
					Burssering				
					Raldung				

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division	District.	Range	Tahsil.	Reserved Forests. Forest unit.	Reserved Forests. Name	Area in acres.	No. and date of Gazette Notification
BASHAHR	Simla	Kailas Range	Bashahr (State)	Kailas Range Reserves.	Rakcham (2 blocks)	25,600	Leased forests. Not notified in Gazette.
	"		"		Seringche Chispa (2 blocks) ..		
	"		"		Pawanang (2 blocks) . ..		
	"		"		Wadang		
	"		"		Ralli		
	"		"		Mehbar		
	"		"		Barang		
	"		"		Tangling		
	"		"		Poari		
	"		"		Purbani		
	"		"		Ribba and Rispa		
	"		"		Tidong		
	Simla	Chini Range	Bashahr (State)	Chini Range Reserves	Bangrang	18,440	Ditto ditto
	"		"		Shalamti		
	"		"		Jangi (Kirang)		
	"		"		Karti (Akhpa)		
	"		"		Barang		
	"		"		Karange		
	"		"		Kashang ..		
	"		"		Pangi		
	"		"		Boktu		
	"		"		Telingi		
	"		"		Duni		
	"		"		Chini		
	"		"		Rogi		
	"		"		Kastiaring		
	"		"		Runang . . .		
	"		"		Eula (Meern) .		
	"		"		Urni		
	"		"		Chargaon		
	Simla	Pandrabis Range.	Bashahr (State)	Pandrabis Range Reserves	Thanach	28,800	
	"		"		Datrang ...		
	"		"		Karabbe . ..		
	"		"		Kampunang . ..		
	"		"		Lasti . .		
	"		"		Suk Natpa .		
	"		"		Rukchang Karalang		
	"		"		Dangrang-Katchang		
	"		"		Chhota Kamba		
	"		"		Bara Kamba .		
	"		"		Rupi .		
	"		"		Kheuncha ..		
	"		"		Chandi ...		
	"		"		Ganwi Gad, East . .		
	"		"		Ganwi Gad, West ...		
	"		"		Sechi and Sirpara ..		
	"		"		Gad ..		
	"		"		Sukachho		
	Simla	Neogli Range	Bashahr (State)	Neogli Range Reserves	Names of forests not recorded	14,720	Ditto ditto.
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				

and forests under District Officers arranged according to Forest Units.

Protected Forests				Ungazetted Forests.			Under District Officers.		
Forest unit	Name	Area in acres.	No and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name	Area in acres
				Kailas Range unreserves.—*continued.*	Seringchi Kamru Ralli Kulanghar Rarang Tangling Poari				
				Chini Range unreserves.	Dabling Dabling Ropen Sechah Taling Kashang Malgaun Chini Rogi				
				Pandrabis Range unreserves.	Katchang Shorrang Rupi Kheuncha Ganwi Kundrara	21,760			
				Neogli Range unreserves.	Bhoorji Karan Odo Reoli Salech (Chil) Sali Odri-Gad Urshial Sungri Khashawara Darkali Kashapat Munsh Raksiani (Chil) Siker (without outlying chil patches)... Darun				

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division	District	Range	Tahsil	Reserved Forests. Forest unit	Name	Area in acres	Number and date of Gazette Notification
BASHAHR	Simla	Taranda Range	Bashahr (State)	Taranda Range Reserves	Names of forests not recorded	19,840	Leased forests not notified in Gazette
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	Simla	Kotgarh Range	Kotgarh				
JHELUM	Jhelum	Jhelum	Jhelum	Jhelum Reserves	Sagar	905	No 359, dated 25th August 1881, under Section 19 of Forest Act
	"		"		Ban Simail	1,270	
	"		"		Lehri	11,489	
	"		"		Jindi	5,590	
	"		"		Garat	2,140	
	"		"		Panala	1,377	
	"		"		Nili	17,497	
	"		"		Barah	8,416	
	"		"		Tilla	24,472	
	"		"		Phadial	10,805	No 350, dated 15th August 1883, under Section 19 of Forest Act
	Jhelum	Pind Dadan Khan	Pind Dadan Khan	Pind Dadan Khan Reserves	Arajadid	12,270	No 349, dated 15th August 1883, under Section 19 of Forest Act
	"		"		Parera	3,232	
	"		"		Karangal	1,370	
	"		"		Ram Halawan	497	
	"		"		Dharm Tirath	623	
	"		"		Dowan	700	
	"		"		Gandhala	3 943	
	"		"		Malot	3,916	
	"		"		Bakhshiwala	1,598	
	"		"		Simli (North)	14 256	
	"		"		Nurpur	15,262	
	"		"		Thalala	1,617	
	"		"		Samarkand (South)	9,203	
	"	Chakwal.	Chakwal	Chakwal Reserves	Diljabba	5,107	No 361, dated 21st August 1882, under Section 19 of Forest Act
	"		"		Dreugan	5,840	
	"		"		Buggn	3,742	
	"		"				
	"		"				
	"		"				
	Jhelum	Talagang	Talagang	Talagang Reserves	Chinji	15,121	Ditto ditto
	"		"		Mari	7,460	
	"		"		Kot Kallan	2,090	
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				

and forests under District Officers arranged according to Forest Units.

Protected Forests.			Number and date of Gazette Notification.	Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.		Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
				Taranda Range unreserves.	Rampur	21,760			
					Baghot				
					Chilialu (Chil)* ...				
					Pashada (Chil) ...				
					Gaura				
					Jakri Kotal (Chil)†				
					Gurmi (Chil) ...				
					Sondal				
					Rawen				
					Kanabi				
					Rikia Pani ...				
					Chounda				
					Taranda				
					Bari				
					Sungri-Gutrang ...				
					Nachar, West and East				
								Kotgarh ...	Cannot be given.
								Kot Khai ...	
								Jabbot	1,026
								Nurpur	396
								Kandal	4,707
								Bail	320
								Paki Kabbar ...	826
								Nili (North) ...	2,226
								Batali Dher ...	1,026
								Rohtas	1,628
								Jagta	510
								Gagri	202
								Samarkand (North),	4,996
								Dand	689
								Simbli (South) ...	1,751
								Dalwal	9,926
								Dandot	11,081
								Kussak	6,666
								Makhiala	6,791
								Jilalpur	14,061
								Amerpur	844
								Malkani	483
								...	...
								...	...
								Hasil	1,832
								Chak Chala ...	1,359
								Chak Thir ...	2,174
								Rangpur ...	938
								Warhal	692
								Rahna	1,244
								Chamthoa Bahadar,	143
								Pilo	955
								Sauj	1,462
								Jabwal	545
								Surla	10,452
								Naryanwali ...	2,348
								Rameshahwali ...	1,413
								Amanpur	1,389
								Sukhwahan ...	913
								Panjoor	1,373
								Ujri	773
								Kalri	274
								Dandi	607
								Datwal Kalan ...	559
								Nakka Kahut ...	2,294
								Faiziwalli ...	1,196
								Chakwalian ...	710
								Nagri (West) ...	892
								Nagri (East) ...	244
								Jhatla	306
								Gulkund	122
								Nara	889

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Reserved Forests. Name.	Reserved Forests. Area in acres.	No. and date of Gazette Notification.
JHELUM.	Jhelum ...	River.	Jhelum ...	Reserved Belas.	Pind Ratwal	7	No. 359, dated 25th August 1881, under Section 19 of Forest Act.
	" ...		" ...		Pira Ghaib	1,065	
	" ...		" ...		Saila	1,020	
	" ...		P. D. Khan...		Sagarpur	68	No. 349, dated 15th August 1883, under Section 19 of Forest Act.
	Gujrat ...		Phalia ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		Kharian ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	Shahpur ...	Khushab.	Khushab ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		"

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers		
For est unit	Name	Area in acres	No. and date of Gazette Notification	Forest unit.	Name	Area in acres.	Forest unit.	Name	Area in acres
				Unreserved Belas.	Mardwal	10			
					Phuphera	116			
					Nurpur Piran	55			
					Majhi	26			
					Mong	40			
					Warabalian	22			
					Dhaipai	10			
					Rasul	54			
					Puran	5			
					Kohar	8			
					Bhalwal	15			
					Gurah	15			
					Kharka	15			
					Khadriala	10			
					Narwal	*Nil*			
					Malo	*Nil*			
					Kilohpur	1			
					Khanpur	1			
					Mahe Kalan	*Nil.*			
					Purani Jhelum	*Nil.*			
					Mahe Khurd	*Nil.*			
					Harchahar Kotian	1			
					Kotian Khurd	*Nil*			
					Nathe	5			
					Rahian	6			
				Khushab Rakhs.	Mangwal	9,661		Sakesar	5,951
					Dewal			Khushab	15,800
					Bhadrur			Bandial	512
					Pail	5,273		Utera Gharbi	5,506
					Katha Masral	3,139		Utera Sharki	4,405
					Keri Sodhi	2,135		Mitha Tawana Sharki	20,121
					Jhunga Saloh	2,714		Mitha Gharbi	
					Jabba	8,242		Shekhu	3,000
					Dhuttaka			Botala	2,480
					Khaddar	22,891		Hadali	3,992
					Khabakki			Kirpalki	1,441
					Makrumi			Mohamad Shaha	1,122
					Mardwal	7,467		Jilalpur	1,856
					Anga	3,726		Thathi Ghangera	1,398
					Kotli	1,162		Hamoka	934
					Ugali	1,985		Rangpur (Kadhi)	1,871
					Chitta	1,177		Ukhli Mohla	9,895
					Uchhali	822		Adhi Sargal	6,026
					Amb	12,864		Adhi Kot	92
					Fatehpur	618		Chan	4,679
					Choha	4,154		Boland	6,876
					Dhokri	2,254		Pilo Wais	4,467
					Jabbi	5,656		Luku	2,536
					Kurradhi	1,867		Roda	4,600
					Jalar	2,245		Dhup Sari	1,051
					Sodhi (West)	3,182		Chhina	917
					Kund	2,692		Dhul	1,071
					Surrakki	675		Laghari	249
					Khura	1,306		Joura	2,980
					Kalial	2,164		Dhamake	3,408
					Sodhi (Mitta Tawana)	3,182		Rangpur Bhagour	12,002
					Uchhala	5,144		Rahdari	5,045
					Kandana	1,782		Mahmud Shahid	5,447
					Chamnakki	657		Pahluhan	2,034
					Dilmiri	977		Sidha	3,981
					Warcha	13,511		Nurpur	28,534
								Jamali	9,896
								Kaka	1,981
								Hardo Khai	3,142
								Tabla Khatwan	16,266
								Nikro Shahid	6,341
								Shahwala	4,544

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.
JHELUM—*concluded.*	Shahpur ...		Khushab ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
CHENAB.	Gujranwala ...	Gujranwala	Gujranwala ...	Gujranwala	Kikranwali	576	No. 115, dated 6th March 1879, under Section 34 of Forest Act.
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	Gujranwala ...	Hafizabad.	Hafizabad ...	Hafizabad Reserves.			
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...		Legar	4,142	No. 1193 S., dated 3rd September 1885, under Section 19 of Forest Act.
	" ...		" ...		Makki	4,278	
	" ...		" ...		Hamboki	2,533	
	" ...		" ...		Kanwanwali	6,461	
	" ...		" ...		Kamalwali	4,299	
	" ...		" ...		Ratti Tibbi	7,936	
	" ...		" ...		Gajinah	7,348	
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	Gujranwala.	Chenab River.	Wazirabad ...	Thatta Faqirulla.			
	" ...		Hafizabad ...				
	" ...		" ...		Thatta Faqirulla	1,090	No. 115, dated 6th March 1879, under Section 34 of Forest Act.
	" ...		" ...				
	Gujrat. ...		Gujrat ...	Gujrat Reserves.	Mari	1,004	No. 109 F., dated 6th March 1879, under Section 34 of Forest Act.
	" ...		" ...		Bahlolpur	56	
	" ...		" ...		Dhul	558	
	" ...		" ...		Kanlowal	97	
	" ...		" ...		Syan	42	
	" ...		" ...	Kuthala Plantations	Kotli Gohan	86	
	" ...		" ...		Sadhoke	36	
	" ...		" ...		Nath	400	
	" ...		" ...		Pindi Tatar	302	
	" ...		Phalian ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	Sialkot ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		Daska ...				
	" ...		" ...				

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
								Mekan	3,908
								Jharkal	9,667
								Nawa Saghu ...	9,637
								Bambul	16,974
								Borana	9,492
								Shah Husain ...	7,900
								Rajar	2,779
								Kandana	241
								Dilmiri	109
								Chamnakki ...	239
				Gujranwala	Chhichhra	300		Chhichhra	979
								Sahuranwala ...	228
								Mero Maswani ...	143
								Duni Chand ...	539
Hafizabad Protected Forests.	Ramuanah ...	4,675	No. 301 F., dated 24th July 1880, under Section 28 of Forest Act.					Vanike	109
	Kundianwala	5,232						Qila Murád Baksh...	196
	Paulianah ...	4,930						Pindi Bhattian ...	210
	Andheri ...	5,358						Thatta Makhtar ...	431
	Daborah ...	6,276						Chak Khiali ...	312
	Choranwali...	4,522						Jangla	1,139
	Moman ...	5,184						Qila Ram Rang ...	267
	Kotha ...	5,572		Hafizabad Rakhs.				Pindi Jalol ...	573
	Burewala ...	6,914						Jindo	472
	Ratti ...	4,547						Wahi	403
	Bajwana ...	5,576			Lagar (detached strip)	1,834		Jhinda Jaryanah ...	383
	Kothra ...	3,598			Jhinda Jharyanah...	998		Makki	480
	Maghawali ...	5,365						Bela Qadirpur ...	71
	Mallianah ...	6,055							
	Tulanwali ...	5,301							
	Karkan ...	5,382							
	Gidranwali	4,482							
	Khingranwali	5,092	No. 11928, dated 3rd September 1885, under Section 28 of Forest Act.						
	Dhaban ...	4,040							
	Bhiko Lohari	4,700							
	Bhagomalli...	4,118							
				Belas.	Santpura	384		Baulí Akalgarh ...	726
					Burj Gahna and Hassan	2,197		Kot Hyat	159
					Chak Gillan ...	166		Chak Sadhoke ...	36
					Lunge	125			
				Kathala Plantation.	Ghazi Chak ...	5			
					Mohla	25			
				Belas.	Sadullapur	378			
					Long	227			
					Kamoki	101			
					Charke	87			
					Narang	124			
					Khosar	75			
					Mushtrika	94			
					Jukalian	982			
					Thatta Alia ...	680			
					Ranmal	52			
					Sanpál	101			
					Murid	99			
					Randiali	72			
					Kala Shadian ...	1,327			
					Jago	139			
					Qadirabad	204			
					Farrukkpur ...	62			
					Talianwala ...	72		Mallianwala ...	51
					Gulabgarh ...	12		Bhakriali	259
								Jhanda Sahi ...	383
								Ghoenke	203
								Vadala	221

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range	Tahsil	Reserved Forests			No. and date of Gazette Notification.
				Forest unit.	Name	Area in acres	
CHENAB—(*concluded*)	Sialkot ...	Chenab River.	Sialkot ..				
	" ...		Zaffarwal .				
	" ...		" ...				
	" ...		Riah ..				
	Gujrat ...	Pabbi.	Kharian .	Pabbi	Pabbi	25,185	No. 109 F., dated 6th March 1879, under Section 34 of Forest Act.
	Gujrat ...	Phalian	Phalian .	Phalian Reserves.	Rasul	817	No. 284 F., dated 3rd July 1882, under Section 19 of Forest Act
	" ..		" ...		Chimmu Sahna	2,560	
	" ...		" ...		Gohar	2,547	
	" ...		" ..		Bukkan	1 862	
	" ...		" ...		Bhachchar . .	475	
	"		" ...		Bhikki	3,510	
	"		" ..		Sohawa (old)	3,612	
	" .		" .		Sohawa (new) ..	1,404	
	" .		" . .		Wassu .	1,199	
	" ..		" ..		Shahidanwali	569	
	" ...		" ...		Minargarh ...	899	
	" ...		" ...		Tarauniwali	343	
	" ...		" ..		Tibbi Tarar .	209	
	Shahpur ...	Bhera.	Bhera ...				
	" ...		" ...				
	" ...		" ..				
	" ...		"				
	" ...		" .				
	" ...		" ...				
	" ...		" .				
	" ...		" .				
	" ...		"				
	" ...		"				
	" ..		" ..				
	" ...		" ..				
	"		" ..				
	"		" ..				
	"		" ...				
	" .		" .				
	" ...		" .				
	" ..		" ..				
	" ...		" ...				
	" ...		" ..				
	" ...		" ...				
	" ...		" ..				
	" ..		" ..				
	" .		" .				
	" ...		"				
	" ...		"				
	" ..		" ...				
	" ...		" ..				
	" ...		" ...				
	" ...		" .				
	" ...		" .				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ..				
	Jhang ...	Jhang.	Chaniot ..				
	" ...		" ...				
	" ...		" ..				
	" ..		" ..				
	" ...		"				
	" .		" .				
	" .		" .				

and forests under District Officers arranged according to Forest Units.

Protected Forests				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name	Area in acres.
								Mandianwala ..	430
								Chenaki ..	494
								Dhingranwali ..	180
								Adian	3,471
								Shah Quli .	148
				Bhera Rakha.	Bahowal ..	3,069		Kaulowal	2,352
					Bhullowal	897		Rakh Ohot	4,269
					Rukkan ..	1,364		Pakhowal	2,128
					Busal ...	4,170		Miani	2,130
					Ishar . ..	1,879		Awan	646
					Musa	1,606		Bhoj Kot	850
					Daffar	5,482		Charagh-Behra ..	2,000
					Miani Gondal .	5,568		Bir Sirkar	1,290
					Monah	4,178		Khan Muhammadwala	3,706
					Mukhodudi ...	2,102		Kot Momanah	2,575
					Variowal	989		Chawah	5,100
					Rutto Kala . .	2,055			
					Dhori	4,559			
					Salim .. .	3,700			
					Chak Qazi ..	1,288			
					Khoja Salah ...	349			
					Khan Muhammadwala	4,124			
					Nabishahbala ..	3,694			
					Chawah ..	18,391			
					Lalyani	15,052			
					Deowal	6,150			
					Marulianwali ...	5,081			
					Kot Moman	7,999			
					Ghullapur ..	2,019			
					Matila	14,148			
					Samuranwali	2,357			
					Bhagtanwalli ...	4,543			
					Mangni . .	3,651			
					Bhikai Khurd	2,552			
					Abdal . ..	932			
					Uppi . .	2,354			
					Hajjan	2,789			
					Pindi Ráwan ...	1,904			
					Pakhowal .. .	1,062			
					Melowal . .	863			
				Jhang Rakha.	Uchkora . .	3,589		Chak No. 9	See Chak Nos. 17 to 22.
					Ahiniawali	7,355		Chak No. 10	
					Gilanah . ..	6,338		Chak No 8 ..	
					Ragri . ..	5,942			
					Masranah	6,356			
					Keranah .. .	7,333			
					Qazianwala .	5,592			
					Pharwanwala .	8,498			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range	Tahsil.	Reserved Forests. Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.
CHENAB—*concluded.*	Jhang ...	Jhang.	Chaniot ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		Jhang ...				
	" ...		" ..				
	" ...		" ...				
	" ...		" ...				
	" ...		Shorkot ...				
	" ...		" ...				
LAHORE.	Lahore ...	Chunian Range.	Chunian ...	Changa Manga.	Changa Manga	18,177	No. 115, dated 6th March 1879, under Section 34 of Forest Act.
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...			

and forests under District Officers arranged according to Forest Units.

Protected Forests.			No. and date of Gazette Notification.	Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.		Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
				Jhang Rakhs.	Butwali	6,357			
					Shahkot	4,098			
					Gahri	6,873			
					Shadiwala	7,161			
					Saidpura	6,400			
								Chak No. 5 ...	22,45,842
								Chak No. 4 ...	
								Chak No. 6 ...	
								Chak No. 7 ...	
								Chak No. 1 ...	
								Chak No. 3 ...	
				Chunian Rakhs.	Mudke	1,127		Bhamba	898
					Bhail Bhuchoke ...	3,468		Aulakh	50
					But	428		Nathoke	3,417
					Thah Chor ...	4,970		Paimar	40
					Turkwind ...	481		Handal	2,161
					Paimar	3,690		Bhail Bhucoke ...	1,000
					Bughiana ...	4,903		Sarae Chhimba ...	2,056
					Aulakh	2,366		Khanke Mor ...	537
					Rawal Jhangar ...	498		Thah Jalleke ...	392
					Naul	460		Changa Manga ...	2,108
					Dhala	5,340		Vairar Patoke ...	10
					Shah Inayat ...	2,344		Van Radharam ...	1,200
					Dobli	1,452			
					Dhig	1,932			
					Mundeke ...	638			
					Thatthi I. ...	644			
					Thatthi II. ...	531			
					Thah Sech ...	718			
					Bhunike	2,392			
					Halla	6,082			
					Harsah Ghuman ...	7,646			
					Bahrwal	4,755			
					Naroke	1,924			
					Hanjra	6,858			
					Vairar Patoke ...	17,611			
					Thah Rosa ...	6,935			
					Chunian... ...	1,778			
					Shamasabad ...	1,617			
					Deosial (North) ...	2,464			
					Deosial (South) ...	2,334			
					Van Radharam ...	9,424			
				Lahore Rakhs.	Awan	286		Parade (English) ...	175
					Rodeshah ...	372		Shah Balawal ...	210
					Tera	5,391		Rode Shah ...	130
					Dahuri	763		Tulspur	359
					Padri	490		Bhassin	874
					Bhangali... ...	5,141		Dyal	440
					Dera Chahl ...	866		Tera	456
					Baikuntha ...	4,387		Padde	84
					Kot Lakhpat ...	3,348		Padri	88
					Chandrae ...	1,851		Bhangali	1,310
					Rana Jhedu ...	471		Chahl	20
					Laddeke ...	1,958		Liddhar	2,424
					Khana Nepal ...	449		Kot Lakhpat ...	625
					Lakhowal ...	1,048		Dhillu	846
					Sultanke	448		Baikuntha ...	91
					Pajian	433		Khambe	207
					Karotana ...	359		Julliana	1,069
					Katarband ...	48		Shekh-ka-kot ...	94
					Faizpur	217		Laddeke	235
								Raewind (old) ...	791
								Raewind (new) ...	667
					Kotli Sur Singh ...	280			
					Algon	1,253			
					Vegal	1,470			
					Katlui	1,127			
					Kasur	704			
					Rukhanwala ...	1,841			

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.
LAHORE.—*concluded.*	Lahore ...	Sharkpur Range.	Sharkpur ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
MOOLTAN.	Mooltan ...	Serai Sidhu Range.	Sarai Sidhu	Sarai Sidhu. Reserves.	Vinohi	9,134	No. 114-F, dated 6th March 1879, under Section 34 of Forest Act.
	" ...		" ...		Makhdumpur	6,644	
	" ...		" ...		Akil	6,936	
	" ...		" ...		Dángra	4,309	
	" ...		" ...		Burá Kotlá	4,531	
	" ...		" ...		Pucka Haji Masjid	2,059	
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...		

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
				Sharkpur Rakhs.	Madho Das ...	2,732		Norewala ...	2,538
					Malikpur ...	1,908		Baghiarwala ...	575
					Thattha Chor Shah,	598			
					Bhagaur	10,764			
					Rattowana ...	1,888			
					Bhagtera ...	2,333			
					Kanjriwalla ...	1,084			
					Mahandevi ...	15,673			
					Kapi	2,865			
					Kalpi	297			
					Khaira	2,654			
					Marrh	4,573			
					Khoni Chak ...	83			
					Mandianwala (9 blocks) ...	202			
					Kothyala ...	9,518			
					Baolj Lahna Singh,	10,714			
					Chhaoni	4,910			
					Dhanoya... ...	435			
								Plot No. 1 ...	5,341
								,, ,, 2 ...	4,314
								,, ,, 3 ...	9,865
								,, ,, 4 ...	13,531
								,, ,, 5 (part)	122
								,, ,, 7 (part)	3,554
								,, ,, 8 ...	15,041
								,, ,, 9 ...	9,976
								,, ,, 12 ...	13,252
								,, ,, 13 ...	17,315
								,, ,, 14 (part)	7,701
								,, ,, 17 (part)	4,485
								,, ,, 18 ...	27,276
								,, ,, 20 ...	5,545
								,, ,, 34 ...	19,229
								,, ,, 35 ...	20,270
								,, ,, 36 (part)	14,304
								,, ,, 38 ...	27,386
								,, ,, 39 ...	14,442
								,, ,, 33 ...	18,194
								,, ,, 37 (part)	20,995
								,, ,, 50 ...	6,575
								,, ,, 49 ...	20,838
								,, ,, 51 ...	10,305
								,, ,, 52 ...	34,554
								,, ,, 48 ...	9,676
								,, ,, 40 ...	14,160
								,, ,, 21 ...	7,280
								,, ,, 19 ...	10,388
								,, ,, 11 ...	12,178
								,, ,, 10 ...	11,368
								,, ,, 22 ...	6,533
								,, ,, 23 ...	5,362
								,, ,, 24 ...	2,579
								,, ,, 25 ...	38
								,, ,, 26 ...	285
								,, ,, 27 ...	868
								,, ,, 28 ...	482
								,, ,, 29 ...	2,275
								,, ,, 30 ...	1,090
								,, ,, 31 ...	468
								,, ,, 32 ...	3,529
								,, ,, 41 ...	675
								,, ,, 42 ...	6,385
								,, ,, 43 ...	1,923
								,, ,, 47 ...	8,843
								,, ,, 46 ...	4,029
								,, ,, 45 ...	4,616
								,, ,, 44 ...	1,591
								,, ,, 60 ...	3,464
								,, ,, 61 ...	4,297
								,, ,, 59 ...	2,973
								,, ,, 58 ...	4,525
								,, ,, 62 ...	1,218
								,, ,, 63 ...	2,931
								,, ,, 64 ...	6,061
								,, ,, 65 ...	3,677

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Reserved Forests. Name.	Reserved Forests. Area in acres.	No. and date of Gazette Notification
MOOLTAN.	Mooltan	Serai Sidhu Range.	Serai Sidhu				
	"		"				
	"		"				
	"		"

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name	Area in acres.	Forest unit.	Name	Area in acres
								Plot No. 66 ...	2,369
								" " 57 ...	3,590
								" " 56 ...	5,678
								" " 55 .	3,002
								" " 54	10,716
								" " 53 ..	10,259
								" " 68 .	4,474
								" " 69 .	3,266
								" " 70 ...	2,730
								" " 71 ...	1,974
								" " 72 ..	3,247
								" " 73 ...	1,611
								" " 75 ...	2,615
								" " 74 .	708
								" " 76	1,941
								" " 77 .	3,907
								" " 78 ...	3,580
								" " 79 ...	1,593
								" " 81 ...	2,590
								" " 80 ...	2,512
								" " 82 ...	2,210
								" " 83 ...	2,181
								" " 67 ...	2,011
								" " $\frac{8\,4}{1}$ ...	29,253
								" " $\frac{8\,4}{2}$ ...	60,587
								" " $\frac{8\,4}{3}$ ...	26,453
								" " $\frac{8\,4}{4}$ ...	8,584
								" " $\frac{8\,4}{5}$ ...	1,786
								" " $\frac{8\,4}{6}$ ...	2,527
								" " $\frac{8\,4}{7}$ ...	541
								" " $\frac{8\,4}{8}$ ...	720
								" " $\frac{8\,4}{9}$ ...	2,080
								Makhdumpur ...	1,218
				Lodhran Rakhs.	Sherpur (a) ...	667		Plot No 1 ...	704
					Sherpur (b) ...	149		" " 2 ...	1,898
					Sherpur (c) ...	430		" " 3 ...	12,969
					Thutta Galuna ...	1,256		" " 4	3,247
					Bahadarpur ..	498		" " 5 ...	6,809
					Rakh Sirkar ...	13,424		" " 6 ..	2,367
					Alipur ...	630		" " 7 ...	7,424
								" " 8 ...	224
								" " 9 to 11	19,921
								" " 29 ...	378
								" " 94 ...	3,998
								Sheikh Ismail ...	1,670
								Plot No. 39	1,059
								" " 40	5,373
								" " 41 ...	6,957
								" " 42 ...	9,991
								" " 43 ...	6,569
								" " 44 ...	7,632
								" " 45 ...	4,821
								" " 46 ...	1,974
								" " 47 ...	12,766
								" " 48 ..	2,830
								" " 57 .	5,770
								" " 58 ...	1,718
				Malsi Rakhs.	Mohal	...		Plot No. 1 ..	12,050
					Kot Palwan ...	986		" " 2	14,338
					Ghari Kichan ...	3,218		" " 3 ...	7,138
					Molpur ...	179		" " 4 ...	5,708
					Pattan Mohamad Khan	23		" " 5 ...	2,506
					Gudar Dhodi ...	101		" " 6 ..	556
					Joyawala	8,572		" " 7 ..	382
					Budhi (No. 5 and 8)	3,060		" " 8 ..	6,040
					Chowli Mishak ...	1,255		" " 9 ...	13,137
					No. 6 (3 pieces) ...	97		" " 10 ...	16,556
								" " 11 ..	8,542
								" " 12 ...	4,465
								" " 13 ..	77
								" " 14 ..	9,598
								" " 15 ...	8,159
								" " 16 ...	9,011

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Forest unit.	Reserved Forests. Name	Area in acres	No. and date of Gazette Notification
MOOLTAN—*continued.*	Mooltan ...	Mailsi Range.	Mailsi ...				
	" ...		" ...				
	" ...		" ...				
	" ...		"

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name	Area in acres.	No. and date of Gazette Notification	Forest unit.	Name	Area in acres.	Forest unit.	Name	Area in acres.
								Plot No. 17	8,946
								" " 18	8,150
								" " 19	202
								" " 20	3,813
								" " 21	409
								" " 22	1,741
								" " 23	2,816
								" " 24	6,348
								" " 25	5,177
								" " 26	10,639
								" " 27	8,180
								" " 28	6,917
								" " 29	8,999
								" " 30	10,727
								" " 31	16,908
								" " 32	19,058
								" S S. " 5	15,408
								" " 7	14,768
								" " 14	7,796
								" " 17	7,596
								" " 36	7,081
								" " 37	1,800
								Gheri Khichian	3,288
								Kot Pahlwan	1,290
								Kot Kunda	840
								Naushehra	280
								Hanusarianwali	101
								Joya	3,324
								Chak Bhanna	1,737
								Kaziwah	73
								Kot Sawan	2,375
								Kot Ghutta	1,865
								Chak Koara	925
								Chak Koara Kamla	333
								Chak Bhudda	1,765
								Chak Shahana	16,803
								Haklm Ali Lakhwara	1,353
								Dewan Chaoli Mishakh	2,324
								Dhundpur Sultan	1,597
								Rahim Shah	17,553
								Ruth Mumhar	2,656
								Sehar	2,504
								Shitab Garh	24,366
								Khai Khas	1,146
								Ghara Fojel Singh	31,617
								Lund Ghar Naj	1,956
								Mahsoom Shah	3,634
								Nootian	681
								Mari Mitru	231
								Bohir Laugah	18,001
								Chowki Rangoo Khan	4,121
								Chak Laugah	1,344
								Rakanpur	1,651
								Syed Biloch	927
								Kot Moluck	11,058
								Kharala	11,235
								Mianpur	2,245
								Makhdumpur	1,376
								Nurgarh	3,155
								Kotla Mohamed Husain	2,022
								Plot No. 33	1,900
								" " 34	932
								" " 35	4,843
								" " 36	2,012
								" " 37	1,550
								" " 38	5,044
								" " 49	5,514
								" " 50	11,100
								" " 51	4,561
								" " 52	3,103
								" " 53	5,690
								" " 54	11,419

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Forest unit.	Reserved Forests. Name.	Reserved Forests. Area in acres.	No and date of Gazette Notification
MOOLTAN—*continued.*	Mooltan	Mailsi Range.	Mailsi				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	Mooltan	Mooltan Range.	Mooltan				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"

and forests under District Officers arranged according to Forest Units.

Protected Forests				Ungazetted Forests			Under District Officers		
Forest unit	Name	Area in acres	No and date of Gazette Notification	Forest unit	Name	Area in acres	Forest unit	Name	Area in acres.
								Plot No 55	5,195
								" " 56	3,165
								" " S S 6	19,901
								" " " 15	17,848
								" " " 16	11,358
								" " 328	4,688
								" " 333	676
								" " 341	17,691
								" " 345	1,[illegible]09
								" " 353	1,930
								" " 356	3,787
								" " 373	1,621
								" " 400	976
								Plot No. 1	69
								" 2	463
								" " 3	2,100
								" " 4	1,105
								" " 5	12,106
								" " 6	8,344
								" " 7	17,264
								" " 8	11,082
								" " 9	11,100
								" " 10	5,965
								" " 11	1,206
								" " 12	1,741
								" " 13	4,546
								" " 14	7 241
								" " 15	6,636
								" " 16	3,269
								" " 17	2,859
								" " 18	5,909
								" " 19	7,900
								" " 20	5,843
								" " 21	5,838
								" " 22	4,541
								" " 23	906
								" " 24	3,325
								" " 25	5,403
								" " 26	1,805
								" " 27	690
								" " 28	1,287
								" " 29	2,459
								" " 30	2,896
								" " 31	924
								" " 32	95
								" " 33	2,420
								" " 34	3,492
								" " 35	10,461
								" " 36	5,379
								" " 37	10,972
								" " 38	1 983
								" " 39	6,970
								" " 40	4,190
								" " 41	6,591
								" " 42	1 279
								" " 43	2,378
								" " 44	1,563
								" " 45	2,995
								" " 88	13,821
								" " 146	169
								" " 158	251
								" " 199	361
								" " 202	357
								" " 258	1,307
								" " 259	312
								" " 260 ...	275
								" " M 42	7,497
								Jumma Khalsa	217
								Baupur	67
								Damra	666
								Kori Dhamak Wali,	1,092
								Bungalwalla	1,160
								Khaggawala	746
								Ali Sher Wahan	718
								Thatta	1,014

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests. Forest unit.	Name	Area in acres.	No and date of Gazette Notification.
MOOLTAN—*continued.*	Mooltan	Mooltan Range.	Mooltan ...				
	"		" ...				
	" .		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		Shujabad ..				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	" ...		" ...				
	Muzaffargarh,	Sanawan Range.	Sanawan ...				
	" ...		" ...				
	"		" ...				
	" ..		" ...				
	"		" ...				
	"		" ...				
	" ...		" ..				
	" .		" .				
	" .		" ..				
	" ...		" ..				
	" ...		" ...				
	Muzaffargarh,	Muzaffargarh Range.	Muzaffargarh,				
	" ..		" ...				
	" ...		" ...				
	" ...		" ...				
	" .		" ...				
	" ...		" ...				
	"		" ...				
	" .		" ..				
	"		" ...				
	"		" ...				
	" .		" ..				
	" ..		" ...				
	" ..		" ...				
	" .		" ...				
	" .		" ...				
	" .		" ...				
	" .		" ...				
	" .		" ..				
	"		" ...				
	" ..		" ...				
	"		" ...				
	" ..		" ..				
	Muzaffargarh,	Alipur Range.	Alipur ..				
	" .		" ..				
	" ..		" ..				
	"		" ...				
	" .		" ...				
	" ..		" ...				
	" .		" ...				
	"		" ...				
	" ..		" ..				
	"		" ...				
	" .		" ..				
	" .		" ...				
	" .		" ..				
	" .		" ...				
	" ...		" .				
	" .		" ...				
	" ...		" ..				
	" ...		" ...				
	" ...		" ...				
	" ...		" ..				

and forests under District Officers arranged according to Forest Units.

Protected Forests				Ungazetted Forests			Under District Officers.		
Forest unit.	Name	Area in acres	No and date of Gazette Notification	Forest unit.	Name	Area in acres	Forest unit.	Name	Area in acres
								Kothewala ...	2,840
								Zor Kot	3,000
								Mianpur .	11,572
								Wahni Wal	9 573
								Kot Misri Khàn	44
								Amirpur . .	161
								Mir Hassian	708
								Shahpur	254
								Dairupur	123
								Wahi Raja Ram	49
								Bhutti ...	10,339
				Sanawan Rakhs	Isanwalla .	7,998		Thatwali	1,18,038
					Wandewalla .	952		Patti Sial	5,430
					Ranuja .	1,371		Ahsanpur	2,512
					Sohni .	765		Tibbiwali	13,607
								Pattal Kotadu	7,825
								Purhar Sharqi	3,024
								Katwali	550
								Drigwali	1,971
								Saban Muchhi	1,822
								Bhatti Metlawali	1,038
								Kallewali	401
				Muzaffargarh Rakhs.	Koreshi	1,189		Kodiwali ..	9,075
					Sarwani . .	1,478		Dehra Hebat	1,240
					Khudai ...	2,598		Kotla Sadad	512
					Jhalari ...	1,857		Kunnal Sandila	478
					Alipoor .	1,163		Khanpur	52,506
					Jalwalla .	1,031		Sadauvaha	656
					Makhanbela	968		Jogiwali	787
								Daira Waddu	315
								Harpallo	467
								Chatwahan	468
								Mohammad Bakhsh Khoanwar .	547
								Ahmad Bari	320
								Umar Budh	312
								Bet Ludda ..	1,082
								Ahmad Muhana	2,285
								Rakh Sarkar	1,360
								Basti Jarh	859
								Bet Kaim Shah ...	1,232
								Khulang	1,601
								Manakpur	722
								Hassanpur Katcha	1,321
								Jarh Rathob	372
				Alipur Rakhs.	Bakaini	2,023		Bet Mir Hazar Khan.	2,365
					Bet Daryai	1,265		Relewala	962
					Chana Malana	4,263		Mela Chacha	493
					Damarwala	3,078		Bet Bag Shah	3,745
					Ahwali	4,680		Thul Mengraj Gharbi,	3,565
					Alipoor	2,304		Do do Sharki,	676
					Luthi Ghiri	1,964		Kohr Piran	584
					Bet Dewan Sahib	3,290		Mohib Shah	640
					Khanwah .	1,676		Kherpur Para	987
					Parara	590		Bakir Shah Janubi	2,338
					Dhaka (North and South)	2,308		Chandia	168
								Tibba Nur Gopang	991
								Katli Lal .	599
								Sarki .	570
								Langarwah ...	868
								Missan Kot Bhawa...	721
								Khanani	769
								Sultanpur .	562
								Basti Arif	1,632
								Hamzewali	2,275

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division	District.	Range.	Tahsil	Reserved Forests			No. and date of Gazette Notification
				Forest unit.	Name	Area in acres.	
MOOLTAN.—*continued.*	Dera Ghazi Khan	Rajanpur Range.	Rajanpur ...				
	" ..		"				
	"		" ..				
	"		" ..				
	" ..		" ...				
	"		" ..				
	" ..		"				
	" .		" ..				
	"		" ..				
	"		" ..				
	" ..		" ...				
	"		" ...				
	" ..		" ...				
	"		" ...				
	"		" ...				
	"		" ..				
	"		" ...				
	" ...		" ...				
	" ..		" ...				
	" ..		" ..				
	" ..		" ...				
	" ..		" .				
	D. G. Khan		Rajanpur ...				
	" ..		" .				
	" .		" ..				
	" .		" ..				
	"		" .				
	" .		" ...				
	"		" ...				
	"		" ..				
	" .		" .				
	" ..		" ...				
	"		" .				
	"		"				
	" .		" ..				
	" ..		" .				
	D. G Khan	D. G. Khan Range	D G Khan ..				
	"		"				
	"		"				
	"		" ..				
	"		" ..				
	" ..		" .				
	"		" .				
	"		"				
	"		"				
	"		" ..				
	"		"				
	"		" .				
	"		"				
	"		" .				
	"		" .				
	" .		" ...				
	"		" ...				
	"		" ..				
	" ..		" .				
	"		" ..				
	" .		"				
	" ..		" .				
	D. G. Khan ...		Sanghur ..				
	"		" .				
	"		" ..				
	" .		" ..				
	"		" ..				
	"		" .				
	" .		" ...				
	" ..		" ..				
	" .		" .				
	"		" ..				
	"		" .				
	" ...		" .				
	"		" ...				

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
				Rajanpur Rakha.	Reikh	1,000		Reikh	1,641
					Fazilpur (East & West)	5,000		Hazrutwala	823
					Kotla Isan	4,000		Fazilpur	8,669
					Daman	4,000		Jagir Shamali	1,890
					Marghai, East	1,200		Jagir Janubi	738
					Kotla Hosen, West	800		Kotla Sher Mohamad,	6,400
								Sahanwala	1,166
								Nowshera, East	3,150
								Nowshera, West	1,800
								Mari	1,820
								Lunda Bahmin	364
								Bakhba Nasir	451
								Bet Sauntra	3,528
								Nurpur, East	581
								Nurpur, West	527
								Bagham	1,056
								Toung	1,885
								Daman	8,689
								Kot Mithan	3,865
								Mad Moutari	2,007
								Murgha	330
								Shahgarh	355
								Pacca Machka	1,014
								Katcha Machka	1,043
								Kotha Hussan Jamera	1,989
								Bangala	1,763
								Kacha Shermahar	2,518
								Kandra	5,585
								Sabizani	2,380
								Parehwár	2,420
								Miranpur Bahdi	2,225
								Kinshahwáli	3,677
								Kacha Choobar	1,349
								Shikarpur	1,077
								Sobarah	2,023
								Gonspur	3,669
								Kotla Isan	674
				D. G. Khan Rakh.	Deo Shekani	2,000		Ranjah	528
								Sladan Lund	7,743
								Sheru Dasti	1,100
								Deoshi Kani	1,093
								Kala Raman	393
								Bhatti Metla	2,105
								Kairo Kahari	135
								Chabri	5,136
								Kotla Shekhni	755
								Kot Haibat	671
								Kaliwali-shambeh	904
								Mohriwala	1,000
								Mandoswala	1,728
								Patti Mirmirani	465
								Patti Imam Bux	172
								Hadar Malana, East	5,120
								Hadar Malana, West	1,585
								Rind Sewra	598
								Jampur Brhmin	998
								Jhok Yar Shah	187
								Khar Mahesran	219
								Golawah	703
								Doda Jhakar	567
								Dhul Abrind	1,096
								Jhalar Latifshah	1,158
								Dalanah	21,377
								Bela Vindor	12,626
					Sanghur	1,000		Zor	894
								Mari Pachadi	1,133
								Morjangi	724
								Kotla Smail	500
								Khetranwali	1,873
								Rarhali	2,161
								Jathah and Kotah	1,257
								Hamilwali	1,017
								Jhok Bodo	11,630
								Barind	2,135

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division	District	Range	Tahsil	Reserved Forests: Forest unit	Reserved Forests: Name	Reserved Forests: Area in acres	Number and date of Gazette Notification
MOOLTAN—*concluded*	D. G Khan	D G Khan Range.	Sanghur				
	"		"				
	"		"				
	"		"				
	"		"				
	Jampur		Jampur				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
MONTGOMERY.	Montgomery,	Gugera Range	Gugera	Gugera Reserves	Syedwalla	4,958	No 402 F, dated 22nd September 1881, under Section 19 of Forest Act
	"		"		Kamman	2,264	
	"		"		Kohla	1,190	
	"		"		Chokian	1,566	
	"		"		Satghara	2,077	
	"		"		Bibipur	864	
	"		"		Bhagjana	1,470	
	"		"		Okara	4,097	
	"		"		Gushkori	4,024	
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"	Montgomery Range	Montgomery,	Montgomery Reserves	Burj Iewe Khan	4,554	Ditto
	"		"		Nur Shah	3,445	
	"		"		Ahwal	1,228	
	"		"		Montgomery	4,280	
	"		"		Mohammadpur	1,748	
	"		"		Mirdad	3,352	
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
		Chichawatni Range.	Montgomery	Chichawatni Reserves	Dad Fatiana	1,072	Ditto
			"		Harrappa	1,945	
	"		"		Kalera	4,561	
	"		"		Darsana	1,663	
	"		"		Ranjit Singh	5,377	
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"	Dipalpur Range	Dipalpur				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				
	"		"				

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests			Under District Officers		
Forest unit.	Name	Area in acres	Number and date of Gazette Notification	Forest unit.	Name	Area in acres	Forest unit.	Name	Area in acres.
								Thatta ..	2,140
								Kot Kasrani	6,445
								Rindwala	1,151
								Sanjar	849
								Mandwani	444
								Nurpur	5,565
								Mohamedpur .	4,709
								Rejistan Pachadi	941
								Rejistan Janubi	1,015
								Rejistan Shamali	2,399
								Azmatwala .	5,299
								Khanwah	2,808
				Gugera Rakhs	Kundoana	71,254		Atari Ram Singh	24
					Maghewala .	2,245		Maharanwala	1,07,112
					Kodeh Mehlo	11,198		Rodanwali	96 027
					Choki Natha Singh,	33,600		Jathaniwala	1,28,641
					Satgarha .	3,000		Lalwala	13,805
					Thakra	13 899		Block No 31	
					Rahna Khangianwala	12,892		Thata Smail	663
					Dhingranwala	6,752		Kot Sati	16,783
					Chhamb yaro wala,	640		Jalloana .	15,722
					Rohipakka . ..	320		Shah Bhor	6,939
					Rakarwala ...	2,955		Jallalabad	33,712
					Dhiroke	2,805		Mamura Gidarwala,	4,606
					Budhjalal	2,700		Hasanabad	40,057
					Sadr Gugera	1,221		Karkani .	6,911
					Maskin Shah	2,026			
					Baranpur ..	4,097			
					Riti Tibi	9,140			
					Nikianawala	12,391			
					Okara .	25,333			
				Montgomery Rakhs	Pak Pattan	2,720		Jhoke Amir Kathia,	1,17,411
					Kanginwala	15,338		„ Nathu .	56,140
					Isafwala	27,046		Khamanwali	640
					Rakh Nurshah .	852		Nurwala	60,702
					Thakrewala	4 792		Bahlolwala	42 346
					Rosha Shah	2,339		Ichlana	10,567
					Koreshah	2,240		Saglanwala	23,556
					Imam Gurh .	2,121		Kirmiwala	640
					Kot Ahmad Shah	2,476		Gidaiwala	1,728
					Khankawala ..	5 688		Munianwala	13,694
					Kot Fatiana	7,104		Dharpwala	7,248
					Rakh Police	3,051		Piranwala .	28,503
					Bahawal Fatiana „	7,797		Mulanwala .	11,267
					Rakh Jandran	634		Darweshwal	16,626
					Mulanwal	2,922		Chali Katch Kona,	27,030
				Chichawatni Rakhs	Harrappa .	19,267		Chaniawala .	1,664
					Madhowala .	7,074		Jalowana	15,575
					Chopat Rae .	7,268		Umarkiwala	8,175
					Chowki Khushak .	10 840		Kandirwala	22,329
					Kimianwali	640		Rakh Shiraza	2,000
					Nulanwala .	32,479		Kat Satti	19,230
					Sarwali .	2,305		Kholewala	2,612
					Rodinwali .	5,321		Kot Sindianwala	45,348
					Jawahirwala ..	27,498		Khair Shah .	15,393
					Lal Isan .	13,897		Dargahwala ..	11,503
					Shahabalshahwala	49,713		Sunarewala ..	26,872
					Kalera ..	3,983			
					Dad Fatiana .	677			
					Rakh No U. ..	59			
					„ „ T. .	1,156			
					„ „ W	*Nil*			
					„ „ F	*Nil*			
								Block No 1 .	...
								„ „ 2 .	..
								„ „ 3 .	.
								„ „ 4 .	.
								„ „ 5 .	
								Mahtabgarh and Pir Gani . .	5,582
								Imbli Sharin	319
								Pipal Sazawar	200

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District	Range.	Tahsil.	Reserved Forests. Forest unit.	Name.	Area in acres	No. and date of Gazette Notification
MONTGOMERY.—*continued.*	Montgomery,	Dipalpur Range.	Dipalpur				
	"		"				
	"		"				
	"		"

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name	Area in acres.	Number and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name	Area in acres.
								Jowaya Biloch ..	623
								Block No. 10 ...	.
								Mamurawala ...	1,678
								Nana Jindeke ...	2,850
								Jhang Shisham ..	3,444
								Bunga Salehwala	2,032
								Kholaanwar ...	6,936
								Jasoki Dhan .	534
								Nidhansinghwala .	217
								Block No. 17 ...	.
								" " 19 ...	
								Rakh Dhular ...	3,764
								Parjewala . ..	10,456
								Jowaya Kalia	6,168
								Chiplipur	8,169
								Dolowal	6,985
								Bolakiwala	2,678
								Shergarh ...	1,645
								Mustafabad ...	3,044
								Hans Kohna ..	5,652
								Rajowal ...	2,784
								Sheik Musafir ...	1,306
								Dargaiwala. . .	199
								Gunjbuxwala	387
								Block No. 23 ...	.
								Bagolwala	5,477
								Salimwala	3,678
								Tehli Bagar ...	93
								Maharanwala	14,024
								Dharmewala ...	848
								Chipplipur	576
								Jowaya Kalia ...	26,711
								Musewal	30,391
								Wan Amir Shah ...	26,644
								Wan Dal Singh . .	15,037
								Pir Guni	370
								Kot Kanugo ...	37,500
								Jewan Shah ..	35,127
								Gul Shah	32,588
								Sheikhupura ...	90,022
								Rangilpur	22,416
								Fatehpur	27,184
								Sheikh Fazil ...	70,571
								Nur Shah	38,800
								Salim Kot	14,161
								Kor Singh	11,076
								Umarpura	21,181
								Dhun-hunderi ...	4,000
								Jamlera	1,000
								Kot Bakhsha ..	782
								Forozpur ..	3,336
								Block No. 6 ...	.
								Lisarah . ..	31·60
								Karanah .	11 10
								Silkeanah ...	8·60
								Choulah	5·20
								Phillour	5·20
								Ramgarh . .	6 80
								Nangal	16·90
				Sarangwal unreserves.	Sarangwal ...	200		Gunoepind ...	14·50
								Hussainpur ...	3·20

Statement showing the areas of reserved, protected and ungazetted forests

Forest Division.	District.	Range.	Tahsil.	Reserved Forests				No. and date of Gazette Notification.
				Forest unit.	Name.		Area in acres	
PHILLOUR.	Jullundur	Ludhiana Range.	Nakodar ...					
	"		" ...					
	"		" ..					
	"		" ...					
	"		" ..					
	"		" ...					
	"		" ...					
	"		" ...					
	"		" ..					
	"		"					
	"		"					
	"		" ..					
	"		"					
	"		" .					
	Ludhiana		Ludhiana	Ludhiana.	Ludhiana ...		107	No 115, dated 6th March 1879, under Section 34 of Forest Act
	Umballa		Jagadri ..	Jagadhri.	Jagadhri		201	
	Umballa	Kasauli Range.	Pipli ..					
	"		" .					
	"		"					
	Simla	Subathu Range.	Simla ..					
	Simla	Dagshai Range.	Simla .					

and forests under District Officers arranged according to Forest Units.

Protected Forests.				Ungazetted Forests.			Under District Officers.		
Forest unit.	Name.	Area in acres.	No. and date of Gazette Notification.	Forest unit.	Name.	Area in acres.	Forest unit.	Name.	Area in acres.
								Bughela	9·00
								Mudhupur ...	12·00
								Bageean	10·00
								Bahadurku ...	11·00
								Danewal... ...	12·00
								Bacopur	4·00
								Rampur	8·00
								Pooncan	20·00
								Jakupur	11·00
								Janean	6·00
								Kung	11·20
								Merajwala ...	11·50
								Mondhalah ...	7·00
								Yoosafpur ...	1·00
				Kalesar.	Kalesar	11,829		Beer Sonthu ...	817·00
					" ...			Thanesar ...	54·00
					" ...			Nakutpur ...	23·00
					" ...			Theh Barasoo ...	1·046·00
				Sabathu.	Sabathu	370			
				Dagshai.	Dagshai	400			